

EFFECT OF ACQUIRED KNOWLEDGE ON THE STATUS OF CARIES IN DENTAL UNDERGRADUATE STUDENTS

¹NAZLI GUL SHUJAAT

²BABAR AHAD

³M RAFIQUE CHATHA

⁴SHUJAAT HASAN IDRIS

ABSTRACT

The aim of this research was to study the evolution of dental health of dental students during their academic training and to assess the extent to which the knowledge acquired was reflected in their own dental care.

A cross sectional survey was carried out in a Dental College of Lahore. The sample was selected randomly choosing 40 students from each year with an age range between 18 and 24 years. The data for this study were collected using a pre-tested self-administered questionnaire and was considered mandatory for all participants to fill out. All participants were clinically examined. Their oral cavity was thoroughly checked for any ongoing disease process and a DMFT chart was filled accordingly.

Data entry and analysis was done using the IBM SPSS version 20. Final sample size was 160 (Females: 75.6% / males: 24.4%). The highest frequency of females and males was observed in 3rd year and 1st year respectively. Frequency distribution and Chi-Square tests of significance were performed. High levels of DMF were not that evident. Almost 30% (48) students had .00 DMF and 23% (37) had 1.00 DMF ($p < 0.05$). Only a small number of students were found using non-fluoridated toothpaste ($p < 0.01$). Chi-square Analysis revealed a significant relations between the year of study and DMFT of the students ($p < 0.05$) along with Gender and age as well as year of study and age ($p < 0.01$).

Key Words: Undergraduate students, Dental Caries, Oral hygiene.

INTRODUCTION

Dental caries is the most prevalent oral disease. It's very high morbidity potential has brought this disease into the main focus of the dental health profession. There is practically no geographic area in the world whose inhabitants do not exhibit some evidence of dental caries. It affects both the sexes, all races, all socioeconomic status and all age groups.¹

Dental health professionals have an important role in the improvement of the public's health education level. At present, it is assumed that the decrease in the prevalence of dental caries in many population groups is also related to a reduction in the activity and

the speed of progression of the carious lesions.² This has led to a change in the dentists' approach to dental care, which is more oriented toward prevention rather than restoration in order to avoid or postpone invasive treatment.³

Undergraduate students in a professional field represent a sample of individuals with good dental status, socio-economical level and access to dental care.⁴ However, in a developing world the oral health status of some of the students can be affected due to lack of prior knowledge and oral health maintenance attitude.

METHODOLOGY

The present study was carried out to observe the prevalence of Dental Caries in Dental Undergraduate students of Lahore. The cross sectional analysis was carried out in one Dental College in Lahore. The sample comprised of 40 students selected randomly from each year. Gender selection hence was also random. The students were 160 in total and were aged between 18 and 24 years. Exclusion criteria included all other students who were not selected. The data for

¹ Nazli Gul Shujaat, BDS, MSc (London), Associate Professor, Department of Community Dentistry, Lahore Medical & Dental College, Tulpura, Lahore; Email: nazli.gulshujaat@lmdc.edu.pk

² Babar Ahad, BDS, MPH, Associate Professor, Department of Community Dentistry, Sardar Begum Dental College, Gandhara University, Peshawar

³ M Rafique Chatha, BDS, MDS, FCPS Professor, Department of Oral Surgery, Lahore Medical & Dental College, Lahore

⁴ Shujaat Hasan Idris, BDS, MSc (London), Associate Professor, Department of Community Dentistry, Lahore Medical & Dental College

Received for Publication: February 9, 2015

Accepted: February 22, 2015

this study were collected with the participants using a pre-tested self-administered questionnaire and was considered mandatory for all participants to fill out. Questions were asked regarding their hygiene habits, visits to their dentists and type of oral problems they perceived they had. All answers and details regarding the participants were kept strictly confidential.

Following the questionnaire, all participants were examined. Their oral cavity was thoroughly checked for any ongoing disease process and a DMFT chart was filled accordingly. Data entry and analysis was done using the IBM SPSS version 20. Frequency distribution and Chi-Square test of significance were performed.

RESULTS

The final sample size was 160. Females were 75.6% and males only 24.4% (Table 1). The highest frequency of females and males was observed in 3rd year and 1st year respectively (Table 2).

TABLE 1: FREQUENCY DISTRIBUTION OF GENDER (N= 160)

Gender	Frequency	Percent
male	39	24.4
female	121	75.6
Total	160	100.0

TABLE 2: FREQUENCY DISTRIBUTION OF GENDER AND YEAR OF STUDY (N=160)

Gender	Year				Total
	1st year	2nd year	3rd year	4th year	
Male	19	6	5	9	39
Female	21	34	35	31	121
Total	40	40	40	40	160

TABLE 3: FREQUENCY DISTRIBUTION & LEVEL OF SIGNIFICANCE FOR THE ASSOCIATION BETWEEN AGE AND DMFT (N=160)

Age	DMFT										Total
	.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00	10.00	17.00	
18.00	0	0	0	1	0	1	0	0	0	0	2
19.00	12	3	4	0	4	0	0	0	0	0	23
20.00	16	6	9	4	2	4	2	1	0	0	44
21.00	8	11	6	6	2	4	0	1	0	1	39
22.00	5	8	4	0	2	3	0	0	0	0	22
23.00	7	8	2	5	4	1	0	0	1	0	28
24.00	0	1	0	0	0	0	1	0	0	0	2
Total	48	37	25	16	14	13	3	2	1	1	160

P=0.055

The high level of DMF was not that evident. Almost 30% (48) students had .00 DMF and 23% (37) had 1.00 DMF (p < 0.05) (Table 3). It was also noted that only a small number of students used non-fluoridated toothpaste (p< 0.01) (Table 4).

Chi-square Analysis revealed a significant relation between the year of study and DMFT of the students (p<0.05) depicting that the teeth with low DMFT in early years was more and decreasing with year progression; whereas the higher DMFT was slightly low in early years and stayed the same or slightly increased in progressing years (Table 5). Gender and age as well as year of study and age were both found having significant relations (p<0.01) (Table 6).

DISCUSSION

Oral health is fundamental to general health and wellbeing.⁵ It is defined as the standard of oral and related tissues which enables an individual to eat, speak and socialize without active disease, discomfort or embarrassment and which contributes to general well being.⁶

Despite great successes in improving the oral health of populations globally, problems still remain in many communities around the world, particularly amongst the underprivileged groups in developing countries. Dental caries and periodontal diseases have historically been considered an important component of the global disease burden. Both can be effectively prevented and controlled through a combination of community, professional, and individual actions. Early detection of disease is, hence, in most cases, crucial to the control of the oral condition.

Today's Dental undergraduate students are the providers of dental services in future and are generally considered to be a good example of positive oral health attitudes and behaviour to their families, patients, and

TABLE 4: LEVEL OF SIGNIFICANCE FOR ASSOCIATION BETWEEN YEAR AND TOOTHPASTE USED (N=160)

Year	Toothpaste		Total
	Non-fluridated	Fluridated	
1st year	0	40	40
2nd year	6	34	40
3rd year	6	34	40
4th year	0	40	40
Total	12	148	160

P=0.005

TABLE 5: FREQUENCY DISTRIBUTION & LEVEL OF SIGNIFICANCE FOR ASSOCIATION BETWEEN YEAR OF STUDY AND DMFT (N=160)

Age	DMFT										Total cases
	.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00	10.00	17.00	
1st yr	17	4	10	3	1	5	0	0	0	0	40
2nd yr	15	4	6	4	6	2	1	1	0	1	40
3rd yr	7	17	7	4	0	3	1	1	0	0	40
4th yr	9	12	2	5	7	3	1	0	1	0	40
T o t a l DMFT	48	37	25	16	14	13	3	2	1	1	160

P+0.014

TABLE 6: LEVEL OF SIGNIFICANCE FOR THE ASSOCIATION BETWEEN GENDER AND AGE; AGE AND YEAR (N=160)

Gender^	Age^*	Year*				Total
		1st year	2nd year	3rd year	4th year	
Male	18.00	1	0	0	0	1
	19.00	3	0	0	0	3
	20.00	12	1	0	0	13
	21.00	2	3	5	1	11
	22.00	1	1	0	2	4
	23.00	0	1	0	5	6
	24.00	0	0	0	1	1
	Total	19	6	5	9	39
Female	18.00	1	0	0	0	1
	19.00	10	8	2	0	20
	20.00	10	16	5	0	31
	21.00	0	9	17	2	28
	22.00	0	1	10	7	18
	23.00	0	0	1	21	22
	24.00	0	0	0	1	1
	Total	21	34	35	31	121
Total	18.00	2	0	0	0	2
	19.00	13	8	2	0	23
	20.00	22	17	5	0	44
	21.00	2	12	22	3	39
	22.00	1	2	10	9	22
	23.00	0	1	1	26	28
	24.00	0	0	0	2	2
	G. Total	40	40	40	40	160

^P=0.001

*P=0.000

friends.⁷ Keeping this in view, the present study was carried out to evaluate their dental caries status after acquiring the related knowledge.

Our study has shown consistency with other studies that age and gender have an impact on the oral health and DMFT.⁸ Increase in age showed lesser levels of DMF. A similar study at Kaunas University showed DMFT scores shifting with age.⁹ The reason for this is the increase in the acquired knowledge over the years in Dental School. The present study also exhibited a similar trend with the Year of study and DMF levels.

The earlier the year of study was, the more incidences of caries there was. Older students in final year had .00 DMF depicting low or no caries.

Students' hygiene habits revealed their knowledge about fluoride, its importance and its use in their lives. Fluoridated toothpaste was used by a large majority and this showed significance relation with the low levels of caries/ DMF. A logical reason for this could be the larger portion of the random sample being female since the males in each class were a minority. Researchers have found females to engage in better oral hygiene behavioural measures, lessening their dental caries status, possessing a greater interest in oral health, and perceiving their own oral health to be good.¹⁰

It can be concluded that providing basic oral health knowledge and giving the students the right skills can make a huge difference and have a deep positive impact on their Oral health. Such knowledge and skills should be imparted earlier so as to reduce the slight increase of DMF in younger age groups in early years of Undergraduate study years.

REFERENCE

- 1 Prakash H, Sidhu SS & Sundaram KR: Prevalence of Dental Caries among delhi school children. *J Ind Dent Assoc.*1999; 70: 12-14.
- 2 Nyvad B, Fejerskov O. Assessing the stage of caries lesion activity on the basis of clinical and microbiological examination. *Community Dent Oral Epidemiol* 1997; 25: 69-75.
- 3 Anusavice K. Management of dental caries as a chronic infectious disease. *J Dent Educ* 1998; 62: 791-802.
- 4 Prevalence of dental caries in dentistry students. Pavleova G, Vesela S, Stanko P. *Bratisl Lek Listy.* 2015; 116(2): 93-95.
- 5 Kwan, SYL, Petersen PE, Pine CM, Borutta A. Health promoting school: an opportunity for oral health promotion. *Bulletin of the World Health Organization* 2005; 83: 677-85.
- 6 Department of health, UK: Definition of oral health. 1994.
- 7 Nadeem M, Ahmed SS, Khaliq R, et al. Evaluation of dental health education and dental status among dental students at Liaquat College of Medicine and Dentistry. *Int j dc* 2011; 3 (3): 11-12.
- 8 Akarslan ZZ, Sadik B, Sadik E, et al. Dietary habits and oral health related behaviors in relation to DMFT indexes of a group of young adult patients attending a dental school. *Med Oral Patol Oral Cir Bucal.* 2008 1; 13 (12): E800-7.
- 9 Jurga Brusokaite, Ieva Januleviciute, Alvydas Kukleris, et al. Evaluation of Dental Health of Dental Students at Kaunas University of Medicine. *Sbdmj* 2003; 5: 133-36.
- 10 Al-Omari QD, Hamasha AA. Gender – specific oral health attitudes and behavior among dental students in Jordan. *J Contemp Dent Pract* 2005; 15; 6 (1): 107-14.