

## DENTAL CARIES-PREVENTIVE CONCEPTS OF DENTISTS IN PESHAWAR

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### ABSTRACT

*The objective of the present investigation was to evaluate the caries preventive concepts of dentists in Peshawar. The subjects included dentists working in health department of NWFP, dental colleges (Public & Private) and private practices. A questionnaire was developed to collect information so as evaluate the concepts of the dentists regarding the role of diet, oral hygiene and fluoride in the prevention of dental caries. Results showed that more dentists (63.8%) were of the opinion that individuals get caries because they take sugar- containing diet frequently and that diet is more important in reducing caries than oral hygiene alone (60.6%). Similarly majority (94.7%) of the dentists reported that frequency of intake of sugar is more important than the quantity of the sugar taken. Most of the dentists (90.4%) replied that brushing with fluoride toothpaste daily reduce caries to some extent. About 25% of the dentists stated that without toothpaste brushing is of no value and has no effect on caries and periodontal health. The results also showed that female dentists and dentists working in dental colleges were more knowledgeable. In conclusion, the preventive concepts of dentists in Peshawar regarding dental caries were found not to be satisfactory and need improvement through various measures.*

**Key words:** Caries, Prevention, Diet, Oral hygiene, Fluoride

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### INTRODUCTION

In the developed countries, traditional approaches for treating carious lesions in a surgical manner are being replaced by newer strategies that emphasize disease prevention and conservation of tooth structure. Although significant progress has been made in reducing and controlling dental caries in the developed countries, it is still a major problem of the developing countries of the world.' Pakistan is a developing country with limited resources, thus indicating a need for the establishment of preventive services.

Dentists have a key role in the prevention of dental diseases.<sup>2</sup> They will be able to give preventive advices only if their own concepts are clear. It is a common misconception that cleaning teeth is the only way to reduce dental caries and that brushing teeth after eating sweets prevents dental caries totally. The relationship between the frequency of intake of sugar

containing foods and drinks and the incidence of dental caries has been demonstrated in a variety of studies.<sup>3-7</sup> However there is no unequivocal evidence that good oral cleanliness reduces caries experience, nor is there sufficient evidence to condemn the value of good oral cleanliness as a caries preventive. Fluoride toothpastes are capable of reducing the incidence of caries, thus necessitating their regular and frequent use.<sup>8</sup>

To asses the practices and attitude of the dentists towards various caries preventive measures, many studies have been conducted in the world. 9-11 The objective of the present investigation was to evaluate the caries preventive concepts of dentists in Peshawar.

### SUBJECTS AND METHODS

The subjects included dentists working in health department of NWFP, dental colleges (public and private) and private practices. A questionnaire was devel-

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oped (fig-I) to collect the required information. It was distributed to 140 dentists randomly. For confidentiality, name or any other feature that would reveal identity was not included in the questionnaire. Data was analyzed and results presented in tables.

**RESULTS**

About two-thirds of the dentists (67.1%) responded by completing the questionnaire. The demographic data of the responding dentists is shown in table-1.

**Response to the various statements (contained in questionnaire):**

The questionnaire (fig-I) contained various statements to answer. These statements were designed to evaluate the concepts of the dentists regarding the role of diet, oral hygiene and fluoride in the prevention of dental caries. More dentists (63.8%) were of the opinion that individuals get caries because they take sugar-containing diet frequently and that diet is more important in reducing caries than oral hygiene alone (60.6%).

Figure-I

**Questionnaire**

Dear Doctor, please tick ( ) the relevant box and oblige.

**DENTAL CARIES — PREVENTIVE CONCEPTS OF DENTAL SURGEONS IN PESHAWAR**

Sex: Male  Female

**Year of Graduation:** \_\_\_\_\_

**Working in:** Private Practice  Dental College   
Health department (Other than Dental College)

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- Tooth decay occur in individuals because they: Don't brush frequently  Take sugar containing diet frequently
  - Oral hygiene alone is more important than diet in reducing caries: Yes  No
  - For tooth decay, frequency of intake of sugar is more important than the quantity of the sugar taken: Yes  No
  - If an individual consume sugar containing food frequently and also brush his teeth frequently, he will not get caries: Yes  No
  - Brushing with fluoride toothpaste daily: Eliminate carries   
Reduce caries to some extent   
Have no effect on caries
  - Without toothpaste brushing is of no value and has no effect on caries and periodontal health: Yes  No

TABLE 1: DEMOGRAPHIC DATA OF RESPONDING DENTISTS

Factor		Number	Percent
<b>Gender:</b>	Male	66	70.2
	Female	28	29.8
<b>Graduate of:</b>	70s	5	5.3
	80s	16	17.0
	90s	20	21.3
	2000 & onwards	53	56.4
<b>Working place:</b>	Dental College	76	80.9
	Health Department	8	8.5
	Private Practices	10	10.6

Similarly majority (94.7%) of the dentists reported that quantity of the sugar taken. Most of the dentists frequency of intake of sugar is more important than the (90.4%) replied that brushing with fluoride toothpaste

TABLE 2: ANSWERS TO STATEMENTS BY GENDER

Statements	Answers	Gender		Total
		Male	I Female	
Tooth decay occur in individuals because they:	Don't brush frequently	28 (42.4%)	6 (21.4%)	34 (36.2%)
	Take sugar containing diet frequently	34 (51.5%)	16 (57.1%)	50 (53.2%)
	Both	4 (6.1%)	6 (21.4%)	10 (10.6%)
Oral hygiene alone is more important than diet in reducing caries:	Yes	29 (43.9%)	8 (28.6%)	37 (39.4%)
	No	37 (56.1%)	20 (71.4%)	57 (60.6%)
For tooth decay, frequency of intake of sugar is more important than the quantity of the sugar taken:	Yes	63 (95.5%)	26 (92.9%)	89 (94.7%)
	No	3 (4.5%)	2 (7.1%)	5 (5.3%)
If an individual consume sugar containing food frequently and also brush his teeth frequently, he will not get caries:	Yes	35 (53.0%)	12 (42.9%)	47 (50.0%)
	No	31 (47.0%)	16 (57.1%)	47 (50.0%)
Brushing with fluoride toothpaste daily:	Eliminate caries	1 (1.5%)	1 (3.6%)	2 (2.1%)
	Reduce caries to some extent	59 (89.4%)	26 (92.8%)	85 (90.4%)
	Have no effect on caries	6 (9.1%)	1 (3.6%)	7 (7.5%)
Without toothpaste brushing is of no value and has no effect on caries and periodontal health:	Yes	18 (27.2%)	5 (17.9%)	23 (24.5%)
	No	48 (72.8%)	23 (82.1%)	71 (75.5%)

daily reduce caries to some extent. About 25% of the dentists stated that without toothpaste brushing is of no value and has no effect on caries and periodontal health.

**Response to statements by gender:**

The gender distribution of dentists was not equal (66 males & 28 females). The response of the dentists to the various statements by gender is shown in table-2. Though the differences were not significant statistically (chi-square), more female dentists were of

the opinion that frequent intake of sugar containing diet result in caries in individuals and that oral hygiene alone is less important than diet in reducing caries. Similarly more female dentists considered that brushing with fluoride toothpaste daily reduce caries experience to some extent.

**Response to statements by year of graduation:**

The response of dentists to various statements by year of graduation is shown in table-3. There is great variation in the number of dentists in different groups

**TABLE 3: RESPONSE TO STATEMENTS BY YEAR OF GRADUATION**

Statements	Answers	Graduate of				Total
		70s	80s	90s	2000 & onwards	
Tooth decay occur in individuals because they:	Don't brush frequently	0 (0.0%)	3 (18.8%)	7 (35.0%)	24 (45.3%)	34 (36.2%)
	Take sugar containing diet frequently	1 (20.0%)	11 (68.7%)	13 (65.0%)	25 (47.2%)	50 (53.2%)
	Both	4 (80.0%)	2 (12.5%)	0 (0.0%)	4 (7.5%)	10 (10.6%)
Oral hygiene alone is more important than diet in reducing caries:	Yes	2 (40.0%)	6 (37.5%)	6 (30.0%)	23 (43.4%)	37 (39.4%)
	No	3 (60.0%)	10 (62.5%)	14 (70.0%)	30 (56.6%)	57 (60.6%)
For tooth decay, frequency of intake of sugar is more important than the quantity of the sugar taken:	Yes	5 (100%)	16 (100%)	17 (85.0%)	51 (96.2%)	89 (94.7%)
	No	0 (0.0%)	0 (0.0%)	3 (15.0%)	2 (3.8%)	5 (5.3%)
If an individual consume sugar containing food frequently and also brush his teeth frequently, he will not get caries:	Yes	2 (40.0%)	5 (31.3%)	10 (50.0%)	30 (56.6%)	47 (50.0%)
	No	3 (60.0%)	11 (68.7%)	10 (50.0%)	23 (43.4%)	47 (50.0%)
Brushing with fluoride toothpaste daily:	Eliminate caries	0 (0.0%)	0 (0.0%)	1 (5.0%)	1 (1.9%)	2 (2.1%)
	Reduce caries to some extent	5 (100%)	15 (93.8%)	15 (75.0%)	50 (94.3%)	85 (90.4%)
	Have no effect on caries	0 (0.0%)	1 (6.2%)	4 (20.0%)	2 (3.8%)	7 (7.5%)
Without toothpaste brushing is of no value and has no effect on caries and periodontal health:	Yes	1 (20.0%)	1 (6.2%)	3 (15.0%)	18 (34.0%)	23 (24.5%)
	No	4 (80.0%)	15 (93.8%)	17 (85.0%)	35 (66.0%)	71 (75.5%)

TABLE 4: RESPONSE TO STATEMENTS BY WORKING PLACE

Statements	Answers	Working Place			Total
		Private practices	Dental college	Health department	
Tooth decay occur in individuals because they:	Don't brush frequently	3 (30.0%)	26 (34.2%)	5 (62.5%)	34 (36.2%)
	Take sugar containing diet frequently	5 (50.0%)	42 (55.3%)	3 (37.52%)	50 (53.2%)
	Both	2 (20.0%)	8 (10.5%)	0 (0.0%)	10 (10.6%)
Oral hygiene alone is more important than diet in reducing caries:	Yes	5 (50.0%)	30 (60.5%)	2 (75.0%)	37 (60.6%)
	No	5 (50.0%)	46 (60.5%)	6 (75.0%)	57 (60.6%)
For tooth decay, frequency of intake of sugar is more important than the quantity of the sugar taken:	Yes	9 (90.0%)	74 (97.4%)	6 (75.0%)	89 (94.7%)
	No	1 (10.0%)	2 (2.6%)	2 (25.0%)	5 (5.3%)
If an individual consume sugar containing food frequently and also brush his teeth frequently, he will not get caries:	Yes	4 (40.0.3%)	38 (50.0%)	5 (62.5%)	47 (50.0%)
	No	6 (60.0%)	38 (50.0%)	3 (37.5%)	47 (50.0%)
Brushing with fluoride toothpaste daily:	Eliminate caries	0 (0.0%)	2 (2.6%)	0 (0.0%)	2 (2.1%)
	Reduce caries to some extent	8 (80.0.8%)	71 (93.4%)	6 (75.0%)	85 (90.4%)
	Have no effect on caries	2 (20.0%)	3 (4.0%)	2 (25.0%)	7 (7.5%)
Without toothpaste brushing is of no value and has no effect on caries and periodontal health:	Yes	5 (50.0%)	16 (21.1%)	2 (25.0%)	23 (24.5%)
	No	5 (50.0%)	60 (78.9%)	6 (75.0%)	71 (75.5%)

(due to the prevailing problems). The level of their knowledge regarding prevention of dental caries was not much different, though recent graduates (2000 & onwards) were a bit weaker than old graduates. However more dentists were of the opinion that diet is more important than oral hygiene in prevention of dental caries especially the dentists who graduated in 80's.

#### Response to statements by working place:

Once again the distribution of dentists in different groups was not equal. The response of the dentists by working place is shown in table-4. More dentists working in Dental Colleges considered diet more important than oral hygiene alone in prevention of dental caries

while majority of the dentists working in Health Department were of the opinion that oral hygiene is more important in reducing caries. Regarding fluoride, majority of the dentists replied that it reduces caries to some extent irrespective of the variable, i.e. gender, year of graduation and working place.

#### DISCUSSION

The results of this study followed no definite trend. This may be partly due to the imbalance in different groups. The concepts of the female dentists were more clear as compared to males. The knowledge and concepts of recent graduates (2000 & onwards) were not as good as those of older graduates as expected. The

results of this study were opposite to that of Moon et al. (1998)<sup>9</sup> who reported female and older graduates to be weaker in their knowledge of dental caries prevention and etiology. This may be due to the lack of teaching of preventive care in private sector dental colleges as this study included a dominant group of recent graduates of both private and public dental colleges. Dentists working in government health department (other than dental colleges) were less clear in their concepts of prevention of dental caries when compared with dentists working in dental colleges and private practices.

The role of diet and dietary advice is well established in the etiology and prevention of dental caries.<sup>7,12,13</sup> Nearly two-thirds of the dentists in this study rightly replied that taking sugar containing diet frequently is one of the main causes of dental caries and that oral hygiene ALONE is less important than diet in reducing caries.

Fluoride plays a very important role in the prevention of dental caries." Therefore majority of the dentists (90.4%) considered fluoride toothpaste to be effective in reducing caries to some extent. Daily plaque removal through brushing result in caries reduction.<sup>15</sup> However one-fourth of the dentists in this study incorrectly believed that without toothpaste brushing is of no value and has no effect on caries.

Overall, the concepts of the respondent dentists regarding prevention of dental caries were categorized as poor. Continuing dental education courses are suggested as a means of updating dentists knowledge and beliefs regarding preventive services in many studies.<sup>11,16</sup> The same is required in Pakistan for older graduates and arrangements need to be made by the authorities of the dental colleges to improve the teachings regarding prevention of dental caries.

## CONCLUSION AND RECOMMENDATIONS

The preventive concepts of dentists in Peshawar regarding dental caries are not satisfactory. They need to be improved through the following recommendations:

- 1 Continuing dental education courses in preventive dentistry for older graduates and improved teaching in dental colleges.

- 2 Pakistan Dental Association should provide guidelines to the dentists on preventive advice regarding dental caries.
- 3 Establishment of preventive services by the administration of health department.

All these steps need to be taken sooner for we may see younger individuals without natural teeth in the years to come.

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