

## Knowledge and Attitudes of Tehran Dentists about HIV/AIDS

Maleki, Z. \*<sup>\*</sup> Abrisham, SM \* Talebi, S \*.

\* Assistant Professor, Department of Oral Medicine, Faculty of Dentistry, Shaheed Beheshti University of Medical Sciences, Tehran, Iran.

### ABSTRACT

**Statement of problem:** As HIV/AIDS transmits through direct contact and via blood (possibly also saliva), the risk of cross-infection in a dental practice has become important. Dentists play an important role in detecting and treating oral manifestations of HIV.

**Purpose:** The aim of this study was to evaluate knowledge and attitudes among general dentists working in Tehran towards HIV/AIDS.

**Materials and Methods:** In a cross – sectional descriptive study, knowledge and attitude among 370 dentists towards HIV/AIDS were evaluated by a questionnaire consisting of 29 questions.

**Results:** Three hundred and seventy dentists, consisting of 262 males (70.8%) and 108 females (29.2%), participated in this study. The mean age was 38.6 (range 25-57 years) .The mean years of work experiences after graduating was 12.9±8.3 years (range 0-29 years).

In this study, the total maximum score was 72 (4 scores for each correct answer).

**Conclusion:** In general, level of dentists' knowledge about HIV/AIDS was low. An educational program about AIDS is highly recommended.

**Keywords:** Knowledge, Attitude, HIV/AIDS, Dentists.

### INTRODUCTION

During the early 1980s Human Immunodeficiency Virus (HIV) with its consequence- Acquired Immune Deficiency Syndrome (AIDS) was introduced. Since it transmits through direct contact and via blood (possibly also saliva), the risk of cross-infection in a dental practice has become important. In a dental clinic transmission through saliva has not yet been reported which might be due to the ability of saliva to inhibit HIV infection. Cross-infection can theoretically take place from dentist to patient, from patient to dentist and from patient to patient <sup>(1)</sup>. A report is available about HIV transmission from a dentist to six of his patients <sup>(2)</sup>. The risk of transmission is very low (0.3%), but as it is life-threatening, the fear of being exposed to HIV has been considered among dental health personnel <sup>(1,3)</sup>. This can influence their attitudes towards providing dental treatment

for patients with HIV/AIDS. Previous studies have suggested that dental care providers have ethical and legal obligations to treat HIV infected patients. WHO also has indicated that dentists are responsible to treat HIV infected patients <sup>(4)</sup>. However, many dentists remain reluctant to treat these patients and patients in high-risk groups such as homosexual males, needle-sharing drug users, and hemophilic patients <sup>(5)</sup>. The dentists are worried about increased personal risk, lack of necessary skills, difficulty in dealing with staff worries, and losing other patients .So, they would refer high risk people or people with AIDS to other dental professionals <sup>(1)</sup>.

The purpose of this study was to evaluate the knowledge and attitudes of dental practitioners about HIV/AIDS infection.

### MATERIALS AND METHODS

A descriptive cross-sectional survey was carried out on the knowledge of dentists working in Tehran. The cluster random sampling was done. Three hundreds and

•Corresponding author: Address: Department of Oral Medicine, Faculty of Dentistry, Shaheed Beheshti University of Medical Sciences, Tehran, Iran. Tel: 09121436652, Email: [dr.zibamaleki@gmail.com](mailto:dr.zibamaleki@gmail.com)

seventy dentists participated in this study. A standardized questionnaire consisting of 29 multiple choice questions about the knowledge (18 questions) and attitudes (11 questions) towards HIV/AIDS was designed. The questions about the knowledge included oral clinical manifestations (4 questions), laboratory findings (4 questions), infection control (6 questions) and treatment planning (4 questions). These questions were taken from reference books of Oral Disease Diagnosis in dentistry: The questions about attitude were verified by 3 Oral Medicine specialists and one expert general practitioner. The validity and reliability of the questions were tested in two pilot studies. Answer sheet included 5 choices which one of them was "I do not know". Total raw scores were calculated by using  $S=R+O/K$ , which S stands for the total score,

## RESULTS

Three hundreds and seventy dentists, consisting of 262 males (70.8%) and 108 females (29.2%), participated in this study. The mean age was 38.6 (range 25-57 years). The mean of work experience after graduating was  $12.9 \pm 8.3$  years (range 0-29 years).

In this study, the total maximum score was 72 (4 scores for each correct answer). One score was also given to each question with an "I don't know" answer. More than 50% of the dentists answered "I don't know" to questions number <sup>(12,14,16)</sup>. Questions number 8, 10 and 13 got the least "I don't know" answers (Table1). According to Table 2 the difficulty index was above only for question number 13 50%. The

R stands for the number of correct answers, O stands for the number of "I don't know" answers, and K stands for the number of options other than "I don't know" ( $K=4$ ). The difficulty level of each question was estimated separately. To ascertain discrimination index, the group which got the highest score (the first 27%) was compared with the group with the lowest score (the last 27%). Data were analyzed using SPSS, Version 9.

Chi-square test and Lawshe's  $\omega$  were used for statistical analysis. Internal consistency of the questionnaire was evaluated by using Spearman-Brown index. The distribution of the answers for each question was determined by two dimensional tables. Distribution curve of the total scores was drawn and also standard deviation of 5th to 95th percentiles was determined. lowest difficulty index was for questions number 2, 6, 14, and 16 (below 10%); they were the most difficult questions. Chi-square test showed that 27% (upper one third) answered all questions (except No. 14) was better than 27% (lower one third). Calculating Lawshe's  $\omega$  was consistent with those results. Maximum  $\omega$ -index was for question No.1 and minimum for question No.14. These results were not significant significance at  $\alpha=0.05$ . Minimum level of significant  $\omega$ -index was about 0.15. Maximum consistency was seen between question number 5 and 10 ( $Kappa=0.719$ ). Maximum negative consistency was found between question number 3 and 5 ( $Kappa=0.625$ ). The only other  $Kappa > 0.5$  had been between questions numbers 9 and 10.

**Table1:** Distribution of answers about Dentists knowledge

Blank/ I don't know		D		C		B		A		None of Question
%	Abundance	%	Abundance	%	Abundance	%	Abundance	%	Abundance	
16/5	61	8/1	30	30/3	112	7/0	26	38/1	141	1
26/9	99	21/1	78	22/5	82	9/5	35	20/5	76	2
20/3	75	17/3	64	17/8	66	26/8	99	17/8	66	3
25/1	93	19/2	71	28/6	106	7/6	28	19/5	72	4
24/3	90	17/8	66	10/8	40	33/0	122	14/1	52	5
47/0	174	7	26	12/7	47	19/5	72	13/8	51	6
18/6	69	30/8	114	26/5	98	18/1	67	5/9	22	7
10/5	39	33/0	122	33/5	124	14/6	54	8/4	31	8
23/8	88	13/0	48	17/8	66	31/1	115	14/3	53	9
13/5	50	17.6	65	21/1	78	22/2	82	25/7	95	10
25/4	94	16.5	61	10/5	39	38/4	142	9/2	34	11
53/5	198	12/4	46	9/7	36	13/0	48	11/4	42	12
8/6	32	-	-	12/2	45	69/2	256	10/0	37	13
55/7	206	11/6	43	15/4	57	9/5	35	7/8	29	14
27/6	102	13/8	51	8/9	33	29/7	110	20/0	74	15
67/0	247	9/5	35	5/1	19	11/3	42	7/3	27	16
25/7	95	26/2	97	8/4	31	5/7	21	34/1	126	17
17/8	66	24/9	92	19/7	73	10/8	40	26/8	99	18

**Table 2:** Difficulty Index of 18 Questions about Dentists Knowledge

Question Category	Difficulty index	False		blank		True		Question
		%	Abundance	%	Abundance	%	Abundance	
Oral Clinical manifestation	38/1	45/4	286	16/5	61	16/5	141	1
Oral Clinical manifestation	9/5	63/8	236	26/9	99	26/9	35	2
Oral Infection Control	17/3	62/4	231	20/3	75	20/3	64	3
Oral Clinical manifestation	28/6	46/2	171	25/1	93	25/1	106	4
Oral Clinical manifestation	33/0	42/7	158	24/3	90	24/3	122	5
Treatment Planning	7/0	45/9	170	47/0	174	47/0	26	6
Laboratory manifestation diagnosis	26/5	54/9	203	18/6	69	18/6	98	7
Infection Control	33/0	56/5	209	10/5	39	10/5	122	8
Laboratory Planning	31/0	45/1	167	23/8	88	23/8	115	9
Infection Control	22/2	64/3	238	13/5	50	13/5	82	10
Treatment Planning	38/4	36/2	134	25/4	94	25/4	142	11
Laboratory Findings	13/0	33/5	124	53/5	198	53/5	48	12
Infection Control	69/2	22/5	82	8/6	32	8/6	256	13
Treatment Planning	7/8	36/5	135	55/7	206	55/7	29	14
Treatment Planning	29/7	42/7	158	27/6	102	27/6	110	15
Laboratory Findings	9/5	23/5	87	67/0	247	67/0	35	16
Infection Control	34/1	40/3	149	25/7	95	25/7	126	17
Infection Control	19/7	62/4	231	17/8	66	17/8	73	18

**Table 3:** Question Differentiation Index based on Chi-square Test and Lawshe's  $\omega$ 

$\Omega$	Statistic Results		Lower 27%			Upper 27%			Question
	P- value	X2	False	Blank	True	False	blank	True	
1/35	<0/001	108.040	76	22	2	23	4	73	1
0/55	<0/001	30.060	52	46	2	57	19	24	2
0/3	<0/011	9/578	70	23	7	59	19	22	3
0/8	<0/001	55/839	52	40	8	32	12	56	4
0/55	<0/021	29725	56	28	16	28	20	52	5
0/3	<0/001	7/684	53	45	2	48	40	12	6
0/6	<0/001	29/255	61	25	14	40	11	49	7
0/4	<0/001	18/338	70	13	17	46	9	45	8
0/75	<0/001	51/005	57	35	8	39	9	52	9
0/6	<0/001	41/342	70	22	8	56	2	42	10
0/8	<0/001	64/871	49	38	13	32	4	64	11
0/45	<0/001	17/705	30	64	6	27	45	28	12
0/9	<0/001	49/035	43	15	42	9	2	89	13
0/1	<0/195	3/268	24	70	6	32	58	10	14
0/55	<0/001	34/046	45	43	12	41	14	45	15
0/25	<0/005	10/586	20	76	4	30	56	14	16
0/65	<0/001	43/631	40	44	16	28	13	59	17
0/75	<0/001	62/383	58	38	4	54	3	43	18

**DISCUSSION**

This study showed that the average score was nearly a third of the maximum score. Therefore, most of the participants got only less than half of the maximum score. In other words, Tehran's dentists had low knowledge about HIV/AIDS that is consistent with previous researches<sup>(3,6-9)</sup>. Maximum score was two third of the total score. It can be said that low knowledge was a general problem. Also it can be noted that females had more knowledge than males. Although the dentists knowledge level decreased with increasing the age work and experience years, but the relation was not significant statistically. The questions were evaluated in four areas: oral clinical manifestations, laboratory findings, infection control and treatment planning. It is worthy to note that each four areas had difficulty indexes less than 50%.

The present study showed that more than 50% of the respondents believed that it is not necessary to ask patients about HIV infection, but about ¾ of the respondents believed that all high risk patients should be asked.

Most of the dentists claimed to visit an HIV+ patient that is consistent with other studies<sup>(8,9,11)</sup>. Most of the dentists believed that it is not necessary to charge an HIV+ patient more for the same procedure. Also the same percentages of dentists were against punishing dentists who refuse to accept HIV+ patients. Consistency index was statistically significant but weak between these two questions. On the other hand, most of the respondents tended to treat HIV+ patients and high risks patients in specialized clinics.

Female dentists more than male dentists (twice) believed that HIV+ patients should be charged more. In contrast, male dentists refused to accept HIV+ patients more than female dentists (twice). Female dentists believed that those patients who do not declare their disease should be punished.

**CONCLUSION**

Altogether, the results revealed that Tehran's dentists knowledge about HIV/AIDS was low. The lowest knowledge level was resulted in laboratory findings area and highest was resulted in infection control

area. . An educational program about AIDS is highly recommended.

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