

Financing of Dental Services in Turkey: Opinions and Expectations of Dentists, Residents, and Patients

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Abstract

Objectives: This study investigates the attitudes of dentists, residents, and patients on the financing of dental services in Turkey. **Methods:** In this descriptive study, randomly selected groups of 860 dentists, 641 patients, and 866 residents from 9 provinces of Turkey were interviewed. Their agreement on various statements on financing issues of dental services were recorded and analyzed. **Results:** Eighty-two percent of the dentists, 83.8 percent of the patients, and 76.4 percent of the residents agreed that "governments should finance all dental services." The majority of the dentists (83.6%), patients (74.7%), and residents (84.4%) stated that patients should pay a copayment for their dental treatment. **Conclusion:** Survey results indicate that the current financing system of dental services in Turkey is not satisfactory either for the providers or for the users. [*J Public Health Dent* 2004;64(2):82-7]

Key Words: dental care, dental insurance, national health programs.

Although the prevalence of dental health problems among Turkish people was found to be very high in various studies (1,2), there is one dentist per 3,250 residents, which is very low when compared with developed countries (3). A nationwide oral health survey performed in 1990 found the prevalence of dental caries to be 88 percent in the 15–19-year-old age group and 96 percent in the 35–44-year-old age group, and that it increased with age until age 50 years (1). A similar trend was observed for the prevalence of periodontal diseases in the same study. A recent study unfortunately showed that the prevalence of dental problems and treatment need has not changed significantly since then (2).

In Turkey, more than 70 percent of the 20,000 active dentists are practicing privately and one-third of the rest are practicing both in the public hospitals and private clinics (4). Out-of-pocket payments are the major source of finance. Preventive dental services, ideally the responsibility of the state, are very poor; there are no organized

dental services within the primary health care facilities of the Ministry of Health or municipal governments. Only a small amount of curative dental services are delivered by the state public hospitals for people who are covered by public health insurance plans.

Financing dental services is an important issue in the delivery and utilization of these services. Several studies have found that people with higher incomes and dental insurance have better oral health and more dental services utilization (5–9). In financing dental health care, various alternatives exist, such as out-of-pocket payments, private insurance, insurance covered by employer, and state funds for the public.

The Turkish health insurance system is based mainly on government plans. About 93 percent of the population has some sort of health care coverage that includes varying types of dental services (Table 1) (10). In Turkey, total health expenditures in 1999 were 4.8 percent of the gross national product (11) and private out-of-pocket expenditures accounted for almost

one-fifth of total health care expenditures (12). Unfortunately, no reliable separate figures available for expenditures on dental services exist.

The Turkish government has been struggling to reform the health care system since the early 1990s. The Turkish Dental Association also has been invited to participate in some of these reforming activities and this study was planned to collect data needed to develop financing policies. The objective of this study, therefore, was to examine the opinions and expectations on financing of dental services of samples of dentists, residents, and patients in state hospitals.

Methods

This survey was part of a larger survey covering utilization and financing of dental services in Turkey, as well as patient satisfaction and dental job satisfaction. Data were collected from three sample groups in nine provinces in 2001: (1) private sector dentists, (2) residents of these provinces, and (3) patients attending outpatient clinics of the state hospitals.

Study Area and Sampling. Turkey has a population of 67,803,927 persons living in 81 provinces, according to the census data of State Institute of Statistics (SIS) in 2000 (13). Terrorist activities in eastern and southeastern Turkey since the early 1980s made it unsafe to conduct a reliable study there, so the provinces in those regions (17.3% of the total population) were not included in the study.

The provinces of central, western, southern, and northern Turkey were stratified by their sociodemographic profiles and organization of dental services according to the recommendations of the managers of the Turkish Dental Association. Nine of those

TABLE 1
Distribution of Turkish Population According to Health Care Coverage

Coverage Type	% of Population
Total insured population	93.0
Social insurance institution (SSK): public insurance for employees in private and public sector	51.6
Bag-Kur (BK): public insurance for self-employed workers	20.8
Pension fund (ES): public insurance for active and retired civil servants and their dependents	18.5
Other: private insurance, Green Card, etc.	2.1
Uninsured population	7.0

Source: Turkish Medical Association (10).

TABLE 2
Dentists' Attitudes Toward Financing Issues

Statement	Agreement (%)
1. Current dental insurance systems adequately cover the majority of the population who need care	5.3
2. The government should finance all dental services	82.4
3. Dental care for the poor patients only should be supported by a publicly funded system	44.0
4. Employers should be required to purchase basic dental plans for the employees	83.6
5. Patients with insurance should pay a copayment for their dental treatments	83.6

provinces were randomly selected. The sample size for dentists and residents was calculated by the same method. The minimum sample size needed for searching an unknown prevalence at 95 percent confidence level and with an absolute precision of 5 percent was calculated to be 384 (14). Because the first stage of sampling was planned as a cluster sampling and the design effect of cluster sampling method versus simple random sampling was 2, the estimated sample size was 768. We increased the sample size by 20 percent to allow for the probable losses, so the final calculated sample size was 925. A sample of dentists was drawn from the Turkish Dental Association's list by systematic sampling, proportional to the number of dentists in each province.

The sample of residents also was selected in proportion to the population of the provinces by using cluster and systematic sampling methods. First, each province was divided into districts; one district from the richest

and another one from the poorest were selected by simple random sampling method. Some streets in these districts were then randomly selected, followed by systematic selection of dwellings in the streets. Only one adult from each household was interviewed. If the selected household was not available, a neighboring dwelling was visited.

The dental clinics of one state and one worker's insurance plan (SSK) hospital, both generally considered to provide minimal to adequate dental care, were selected from each selected province by simple random sampling method. Data from the adult patients ($n=641$) attending the dental clinics of these hospitals were collected during five consecutive workdays.

Data Collection. Data from the dentists, residents, and patients were collected using structured questionnaires during face-to-face interviews. All of the interviewers ($n=24$) were senior students of the School of Health Education at Marmara University. They

were trained on interviewing and the methodology of the study to minimize interobserver variations.

Questions in the questionnaires were prepared in accordance with the guidelines of the Turkish Dental Association and the prevailing literature. The dentists' questionnaire included questions regarding sociodemographic characteristics, opinions, and expectations on dental services, and a job satisfaction questionnaire. The residents' questionnaire included questions regarding their sociodemographic characteristics and their attitudes, behaviors, and expectations toward the utilization and financing of dental services. The patients' questionnaire included similar questions, in addition to questions on patient satisfaction. Only the data regarding the financing issues are presented in this paper.

All participants were asked to what extent they agreed with certain statements relating to financing of dental services, five for the dentists (Table 2) and six for the residents and patients (Table 5). The participants originally responded to these statements using a five-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree). A response of 1 or 2 was considered agreement with the statement, a response of 3 was considered neutral, and a response of 4 or 5 was considered disagreement with the statement. The prepared questionnaires were tested during a pilot study in Istanbul.

Statistical Analysis. The percentages of the 860 dentists (response rate: 93.0%), 866 residents (response rate: 93.6%) and 641 patients agreeing with each statement—i.e., scoring 1 or 2—were tabulated according to selected sociodemographic characteristics. The responses of all participants were tabulated according to sex and age. The responses of the dentists were tabulated according to specialty status and job experience and those of the patients and residents, according to education and form of health insurance. The significance of differences between the percentages agreeing with various statements among sociodemographic groups was tested by using chi-square tests and accepted as significant for $P<.05$. The data were analyzed by using the SPSS version 10.0 statistical software package.

TABLE 3
Dentists' Agreement on Various Statements about Financing of Dental Services According to Sociodemographic Variables

Sociodemographic Variables	n	%	Agreement on Various Statements (%)				
			S1	S2	S3	S4	S5
Sex							
Male	549	63.8	6.9	82.5	48.1	83.8	85.1
Female	311	36.2	2.9	82.3	36.7	83.3	81.0
χ^2			7.41	0.005	10.53	0.03	2.35
P-values			<.01	>.05	<.01	>.05	>.05
Age group (years)							
20-29	148	17.2	4.7	81.8	39.2	83.1	85.1
30-39	321	37.3	4.0	84.4	41.4	83.5	85.0
40-49	228	26.5	8.3	82.0	46.5	81.1	82.9
50-59	140	16.3	2.9	81.4	47.1	87.9	78.6
≥60	23	2.7	13.0	69.6	65.2	87.0	91.3
χ^2			9.60	3.68	7.58	3.07	4.406
P-values			.048	>.05	>.05	>.05	>.05
Specialty status							
Practitioner	710	82.6	5.2	83.4	44.8	84.2	82.8
Specialist	150	17.4	6.0	78.0	40.0	80.7	87.3
χ^2			0.15	2.47	1.15	1.14	1.84
P-values			>.05	>.05	>.05	>.05	>.05
Job experience (years)							
0-4	127	14.8	4.7	81.1	37.8	83.5	87.4
5-9	158	18.4	3.2	88.6	45.6	82.9	82.3
10-19	304	35.3	5.9	79.9	42.8	82.2	83.6
20-29	223	25.9	5.8	82.1	46.6	85.2	81.6
≥30	48	5.6	8.3	83.3	50.0	87.5	87.5
χ^2			2.73	5.67	3.66	1.41	2.71
P-values			>.05	>.05	>.05	>.05	>.05
Total	860	100.0	5.3	82.4	44.0	83.6	83.6

S1: Current dental insurance systems adequately cover the majority of patients requiring care.

S2: Dental care should be part of a guaranteed, government-funded, comprehensive benefit package.

S3: Dental care for poor patients only should be supported by a publicly funded system.

S4: Employers should be required to purchase basic dental plans for the employees.

S5: Patients with insurance should pay a copayment for their dental treatments.

Results

As shown in Table 3, 63.8 percent of all dentists were male, more than half were aged 30-49 years, 82.6 percent were practitioners, and the majority had job experience of at least 10 years. This distribution was similar to the general Turkish dentist population.

Only 5.3 percent of the dentists agreed that "the current dental insurance system adequately covers the majority of the population who need care." Significantly more male dentists (6.9%) than females (2.9%) agreed ($P<.05$). Agreement with the statement that "dental care for poor patients only should be supported by a publicly funded system" was 44 percent overall, and significantly higher for the

TABLE 4
Residents' (n=758) and Patients' (n=641) Attitudes Toward Financing Issues

Statements	% Agreement	
	Residents	Patients
1. The governments should finance all dental services.	76.4	83.8
2. Dental problems have no priority during my daily life.	13.9	11.5
3. Dental care expenditures constitute a great significant burden for my personal budget.	66.0	56.8
4. Dental insurance plans should cover all kinds of dental services.	93.9	96.4
5. Patients with insurance should pay a copayment for their dental treatments.	84.4	74.7
6. A third party should be responsible for payment of dental expenditures.	65.0	86.3

TABLE 5

Agreement of Residents on Various Statements on Financing of Dental Services According to Sociodemographic Variables

Sociodemographic Variables	n	%	Agreement on Various Statements (%)					
			S1	S2	S3	S4	S5	S6
Sex								
Male	315	41.6	73.8	13.3	58.7	93.0	84.4	65.7
Female	443	58.4	78.6	14.2	71.1	94.6	84.4	64.6
χ^2			2.78	0.12	12.55	0.79	0.00	0.10
P-values			>.05	>.05	<.001	>.05	>.05	>.05
Age group (years)								
<20	80	10.6	75.0	7.5	53.8	90.0	86.3	48.8
20-29	183	24.1	68.9	12.6	61.2	92.9	86.9	66.1
30-39	209	27.6	77.0	12.9	66.0	94.7	83.7	67.0
40-49	131	17.3	81.9	14.5	72.5	94.7	87.0	71.8
≥50	155	20.4	80.6	19.4	72.3	95.5	79.4	63.9
χ^2			9.48	7.09	12.4	3.52	4.82	12.47
P-values			.05	>.05	.01	>.05	>.05	.01
Education								
Illiterate	56	7.4	82.1	16.1	66.1	94.6	80.4	66.1
Primary school	248	32.7	81.0	15.3	80.6	95.6	84.3	66.9
Secondary school	322	42.5	74.8	14.0	60.9	92.9	85.1	59.9
University	132	17.4	68.9	9.8	50.8	93.2	84.8	73.5
χ^2			8.49	2.45	41.12	1.99	0.83	8.24
P-values			.03	>.05	<.001	>.05	>.05	.04
Health insurance								
No	159	20.9	77.4	13.8	75.5	94.3	89.3	59.7
Pension fund	161	21.2	73.3	11.8	55.9	93.2	77.6	70.2
Social insurance fund	275	36.3	78.9	15.6	66.9	93.5	83.6	64.4
Bag-Kur	119	15.7	76.5	13.4	66.4	94.1	87.4	63.9
Green Card	10	1.3	70.0	10.0	90.0	100.0	80.0	90.0
Private insurance	26	3.4	73.1	15.4	57.7	100.0	88.5	69.2
Others	8	1.1	50.0	0	37.5	87.5	100.0	62.5
χ^2			5.38	2.77	20.03	3.23	11.40	6.92
P-values			>.05	>.05	<.01	>.05	>.05	>.05
Total	758	100.0	76.4	13.9	66.0	93.9	84.4	65.0

S1: The governments should finance all dental services.

S2: Dental health has no priority for me during daily life.

S3: Dental care expenditure constitute a great significant burden for my personal budget.

S4: Dental insurance plans should cover all kinds of dental services.

S5: Patients with insurance should pay a copayment for their dental treatments.

S6: A third party should be responsible for payment of dental expenditures.

male (48.1%) than female dentists (36.7%) ($P<.01$). Dentists older than 60 years of age agreed with this last statement more than did the other age groups, although the difference was not statistically significant. Regarding the other statements, 82.4 percent agreed that "governments should finance all dental services," 83.6 percent that "employers should be required to purchase basic dental plans for the employees" and 83.6 percent that "patients with insurance should pay a co-

payment for their treatment."

Tables 5 and 6 summarize the responses of the residents and patients, respectively. They show that 76.4 percent of the residents and 83.8 percent of the patients agreed that "the governments should finance all dental services." Agreement differed significantly by education and was lowest among university graduate residents, ($P=.03$) (Table 5), and was significantly higher among female (88.3%) than male patients (77.4%) ($P<.001$) (Table

6). Only 13.9 percent of residents and 11.5 percent of patients agreed that "dental health problems have no priority in daily life." More than half of the patients (56.8 percent) and 66.0 percent of the residents agreed that "dental health care expenditures constituted a significant burden on their personal budgets." For this statement, there were significant differences among age groups in the resident sample and among education and health insurance groups for both residents

TABLE 6
Patients' Agreement on Various Statements about Financing of Dental Services According to Sociodemographic Variables

Sociodemographic Variables	n	%	Agreement on Various Statements (%)					
			S1	S2	S3	S4	S5	S6
Sex								
Male	266	41.5	77.4	13.2	50.8	93.6	76.7	88.3
Female	375	58.5	88.3	10.4	61.1	98.4	73.3	84.8
χ^2			13.41	1.15	6.74	10.32	0.93	1.65
P-values			<.001	>.05	<.01	<.01	>.05	>.05
Age group (years)								
<20	178	27.8	81.5	7.3	53.9	96.6	74.2	84.3
20-29	142	22.2	86.6	13.4	60.6	97.9	81.7	85.2
30-39	140	21.8	83.6	10.7	60.0	95.7	69.3	90.7
40-49	93	14.5	82.8	14.0	57.0	94.6	73.1	87.1
≥50	88	13.7	85.2	15.9	51.1	96.6	75.0	84.1
χ^2			1.75	5.88	3.15	1.98	6.00	3.47
P-values			>.05	>.05	>.05	>.05	>.05	>.05
Education								
Illiterate	83	12.9	86.7	16.9	68.7	98.8	72.3	86.7
Primary school	259	40.4	86.1	13.5	61.0	96.1	73.0	84.6
Secondary school	237	37.0	81.0	7.6	51.5	95.4	78.5	86.5
University	62	9.7	80.6	11.3	43.5	98.4	71.0	91.9
χ^2			3.34	6.91	13.80	2.87	2.91	2.34
P-values			>.05	>.05	<.01	>.05	>.05	>.05
Health insurance								
No	36	5.6	80.6	22.2	69.4	97.2	80.6	100.0
Pension fund	180	28.1	83.3	11.1	46.1	95.6	73.9	87.2
Social insurance fund	317	49.5	83.3	9.5	60.6	96.2	76.3	85.2
Bag-Kur	87	13.6	85.1	14.9	62.1	97.7	69.0	83.9
Green Card	117	18.3	100.0	11.8	58.8	100.0	70.6	76.5
Private insurance	4	0.6	75.0	25.0	0	100.0	75.0	100.0
χ^2			3.98	7.09	18.83	1.68	2.83	8.61
P-values			>.05	>.05	<.01	>.05	>.05	>.05
Total	641	100.0	83.8	11.5	56.8	96.8	74.7	86.3

S1: The governments should finance all dental services.

S2: Dental health has no priority for me during daily life.

S3: Dental care expenditure constitute a great significant burden for my personal budget.

S4: Dental insurance plans should cover all kinds of dental services.

S5: Patients with insurance should pay a copayment for their dental treatments.

S6: A third party should be responsible for payment of dental expenditures.

and patients. Females and less educated individuals in both samples agreed more with this statement than did males and individuals with high education levels. In both patient and resident samples, those covered by private insurance or by the Pension Fund agreed the least. Agreement on this statement increased with age in the residents' sample.

A high percentage of residents (93.9%) and patients (96.4%) agreed that "dental insurance plans should cover all kinds of dental services."

Somewhat fewer, 84.4 percent of residents and 74.7 percent of patients, agreed that "patients with insurance should pay a copayment for their dental treatment." Agreement with the statement "the responsibility of payment for dental services should belong to third parties" was 86.3 percent among the patients and 65.0 percent among the residents. Agreement with this statement was highest among middle-aged and university graduate residents ($P<.05$).

Discussion

Our study results cannot be generalized to the whole country, because eastern and southeastern regions of Turkey were not represented in the study. Moreover, some findings may have been biased due to the contribution of managers of the Turkish Dental Association during the sample selection procedure.

The most striking finding of this study is that only a small percentage of dentists (5.3%) agreed that "the current dental insurance system ade-

quately covers the majority of patients requiring care." Relatively high agreement of residents and patients on the statement "dental expenditures constitute a significant burden for my personal budget" support this finding.

These findings show the complexity of the situation. On one hand, national statistics indicate that 93 percent of the Turkish population are covered by some sort of health insurance system and more than 90 percent are covered by publicly funded and government regulated plans (10,12). On the other hand, a very low percentage of dentists agreed that the current insurance system covers the majority of the population and high percentages of residents and patients claimed that dental expenditures constitute a great burden for their budget.

There may be two explanations for this situation. One is that the publicly financed health insurance plans may not cover all dental services. The other is that the organization and delivery of dental services may not be sufficient or not easily accessible for publicly insured people.

Laws and regulations in Turkey permit free utilization of all kinds of dental services in public hospitals for people under the coverage of any government health insurance plans. When the needed treatment in public hospitals is lacking, patients are referred to private dentists by an authorized government dentist. Because more than 70 percent of the dentists work in their private clinics, there is a constant shortage of dental services in public hospitals, so most of the patients are referred to these clinics. The limited number of dentists who are recruited by the public hospitals act as authorized dentists and most of them have part-time private work, as well. When patients are referred to private clinics, only a small amount of the expenditures, which are defined by the authorized dentists, are reimbursed by the insurance. What happens as a result is that publicly insured people end up obtaining the required care at the private dentist offices and incurring out-of-pocket expenses.

The majority of dentists, residents, and patients believe the government

should finance all dental services. A slightly higher proportion of dentists supported employment-based dental coverage over a publicly funded system. The residents and patients were not asked to respond to the statement "employers should be required to purchase basic dental plans for the employees" because in the pilot study "employment-based dental coverage" term did not sound meaningful, coming across to the majority as "SSK health coverage," which is the current employer-provided health care coverage. Employer-supported dental care coverage, although common in most countries (15-17), is not common in Turkey. Only a small group, employees in private-sector banks and insurance companies, were familiar with this form of coverage.

More than 90 percent of patients and residents agreed that dental insurance plans should cover all kinds of dental services. The majority of patients, residents, and dentists also agreed that "patients with insurance should pay a copayment for their dental treatments," indicating that financial contributions by patients are acceptable to both users and providers.

A high percentage of patients (86.3%) and the majority of residents (65.0%) agreed that "a third party should be responsible for payment of dental expenditures."

Conclusions

Our study results indicate that neither the providers nor users of dental services were satisfied with the current dental insurance system. The ideal system emerged as one with less bureaucracy, but financed mainly publicly, although supported by patient copayments and employer contributions.

The results of this study cannot be generalized to apply to the entire Turkish population because the eastern and southeastern regions of the country were not represented in the study. However, it is likely that because these regions are less developed than our study area, this study may paint a somewhat optimistic picture of the overall situation.

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