

# AN ASSESSMENT OF THE AWARENESS AND SATISFACTION CONCERNING DENTAL INSURANCE AMONG EMPLOYEES IN RIYADH, KINGDOM OF SAUDI ARABIA

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## ABSTRACT

*The main objective of this study was to assess the level of awareness as well as satisfaction regarding dental insurance coverage among employees working in different companies in Riyadh, Kingdom of Saudi Arabia. The survey questionnaires were distributed among 800 employees with health insurance coverage. Chi-square tests were used to analyze significant association between age, gender, Nationality, marital status, level of education, and monthly income with awareness related questions. The association between the socio-demographic variables and the satisfaction criteria were analyzed using Kruskal Wallis and the Mann-Whitney tests.*

*Six hundred and seventy five employees responded to the questionnaire with a response rate of about 84%. Graduates, married and males respondents demonstrated better awareness about their dental insurance. Age and monthly income were also positively related to the level of awareness. Low income groups were least satisfied with the dental insurance policy. Although great majority of the respondents in this study had dental insurance coverage, the level of awareness varied between different socio-demographic subgroups.*

**Key words:** Dental insurance, socio-demographic characteristics, awareness, patient satisfaction, insurance coverage

## INTRODUCTION

Improvement of oral health is the ultimate goal and product of dental care which, in turn, indicates the overall performance level of the dental sector.<sup>1</sup> Financing of dental treatment, like other health services, is related to effective cost containment.<sup>2</sup> Dental insurance allows protection from unexpected dental expenses thereby attempting to reduce or remove cost barriers. Depending on the social and political background of a country, the health insurance policy, dental

services delivered to their beneficiaries, and their funding differs.<sup>3</sup> Most of the developing countries exercise systems mainly focusing on treatment of teeth and supporting structures and pain relief. Several studies indicate that dental insurance coverage has a positive role to play in increasing the utilization of dental care.<sup>4</sup> However, utilization of dental services may be determined and guided by the level of awareness about relevant dental benefits in the insurance contract and its rules and regulations including payment details. In addition, the level of satisfaction with

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dental insurance coverage could also play a significant role in the utilization of the dental care.

Dental insurance is related to delivering quality care at reasonable costs. The primary reason for the success of dental insurance in the field of dentistry might be related to learning from and avoiding the mistakes that the medical hospital insurance had made in their foregone formative years.<sup>5</sup> Employers and employees are not always very keen in demanding and negotiating about dental insurance.<sup>6</sup> Full dental insurance can be very expensive and if one wants extensive coverage, they must purchase a 'gold standard' health plan. Emergency fillings and extractions are normally included in standard health plans, but when it comes to more specialized treatment options like crowns, bridges and other prosthetics, the costs escalate substantially. Even the above mentioned 'gold standard' policies have restrictions, sometimes with regard to content of filling materials used, the number of dental visits and the volume of work carried out in an year. Cosmetic procedures and children's orthodontic treatment are not included in most plans (if they are, the premiums are usually high). In spite of the high prevalence of oral diseases and the extensive resources spent on dentistry, amendment of the dental care policy options were mostly ignored in public health policy discussion scenarios.<sup>7</sup> Not every dental service is similar, and moreover the demand for dental care is not constant. For some services, patients are insensitive to variations in price while for some other services, they may show varying levels of demand regarding the price.<sup>8</sup> Especially for Saudi Nationals, even if dental care were free, use rates would vary, because attitudes and other demand factors differ.

Several socio-demographic and personal characteristics have been associated with the likelihood of having awareness about dental insurance. The purpose of this study was to provide information that will help describe this issue. Dental insurance in Saudi Arabia was introduced rather recently. The main aim of this study was to assess the level of awareness as well as satisfaction of dental insurance coverage among employees working in different companies in Riyadh, Kingdom of Saudi Arabia.

## METHODOLOGY

Ethical approval for the study was obtained from the College of Dentistry Research Centre's (CDRC)

Ethical Sub-committee. Consent to participate in this survey was sought from the employees.

In Saudi Arabia, dental insurance is mainly commercial and it comes under the Council of Cooperative Health Insurance. The primary function of the health insurance system which includes dental insurance is to cover the costs of treatments as efficiently as possible. The following individuals are subject to health insurance:

1. Non-Saudis working for the non-governmental sector.
2. Persons unemployed in the non-governmental sector, who are residing in the Kingdom.
3. Family dependents of persons specified in 1 and 2, who are holding a residence permit in the Kingdom.
4. Saudis working in the private sector and individuals with whom they have labor contracts or proof of employment, regardless of the form of remuneration.
5. Family members of Saudis referred to in 4, as determined by the Council of Cooperative Health Insurance.<sup>9</sup>

The dentist-population ratio in Saudi Arabia is 29.2 dentists per 100,000 population as per the Ministry of Health statistics.<sup>10</sup> The total number of dentists is estimated to be 7355, among which, most of them have been hired by or have contract with insurance schemes.<sup>10</sup> The maximum annual benefit limit for each beneficiary under the health insurance policy is 250,000 Saudi Riyals (SR), out of which a maximum of SR 2000 can be utilized for dental treatments during the term of the policy.<sup>11</sup>

This study is based on data collected over a period of six months (November 2010 to April 2011) from employees working in different companies in the city of Riyadh. The employers were categorized into four groups namely finance, tourism, telecommunication and government owned companies/institutions for the purpose of this cross-sectional survey to ensure the comprehensive coverage of various companies. A team of research assistants carried out the distribution of questionnaires to 800 medically insured employees

after explaining the purpose of study to the participants. The employees working in each category were identified in the analyses stage through specific serial numbers to ensure the confidentiality of the information provided by the participants. The practicality criteria and the need to meet sampling objectives of our study determined the selection of the companies. An employee having dental insurance or medical insurance which, covers dental treatment as well, was considered as the inclusion criteria for this survey.

The questionnaire contained two parts; the first consisted of socio-demography related questions such as age or date of birth, gender, level of education, Nationality, marital status and monthly income. The second part consisted of questions pertaining to awareness and satisfaction of dental insurance, as to how much awareness the respondents have regarding the value, rules, coverage and period of the dental insurance. The questions were formatted in the following manner

- (Q1) Do you know about your dental insurance value for you and your family?
- (Q2) Do you know your dental insurance rules?
- (Q3) What treatment options does your dental insurance cover?
- (Q4) What is the period of your dental insurance?
- (Q5) How satisfied are you with the insurance company?

The socio-demographic variables were correlated with the respondent's satisfaction towards dental insurance. The questionnaire had four possible responses for satisfaction that were "dissatisfied, acceptable, satisfied, and very satisfied."

The statistical analysis of the data included the classification of data and calculation of frequencies; and was carried out using SPSS version 16.0 software. Chi-square tests were used to analyze significant association between age, gender, Nationality, marital status, level of education and monthly income with awareness related questions (Q1, Q2, Q3, and Q4). The association between the socio-demographic variables and the satisfaction criteria (Q5) were analyzed using Kruskal Wallis and the Mann-Whitney tests.

## RESULTS

Questionnaires were distributed to 800 employees and among them, 675 responded with a response rate of 84.37%. Majority of respondents were males (n=549, 81.7%), Saudi Nationals (n=633, 94.3%) and in the age group of 26-35 years (n=421, 66.0%). Table 1 shows a significant association between the socio-demographic characteristics and Q1. As expected, those with higher education level were more aware of the value of dental insurance for themselves and their family. Graduates showed the highest percentage of awareness; 52.5% (221/421), followed by high school; 47% (71/151) and postgraduates 31.2% (25/80). Age and monthly income were positively related to the level of awareness, in which, younger individuals and those with low income had less awareness about the dental insurance value than older and richer individuals. More specifically, individuals above 30 years of age showed better awareness regarding insurance value (62.5%) than individuals below 30 years. In addition, a higher percentage of married people (55%) were aware of the value as compared with those who were single (37%).

Most of the respondents were unaware of the rules regarding dental insurance except the highest income group, as shown in table 2. None of the respondents were aware about the treatment options covered by the dental insurance as indicated in table 3.

The married respondents (56.3%) also showed more awareness regarding the period of dental insurance than those who were unmarried (43.4%) as noted in table 4. Older individuals showed a better awareness about the period of their insurance. Analysis by gender indicated that female participants had less awareness about their dental insurance value 32.8% (40/122) and insurance period 37.3% (44/118) than male participants; 51.7% (281/544) and 54.5% (294/539) respectively.

In the satisfaction criteria, 8.72% of the individuals were very satisfied, and 28.27% satisfied; 55.49% responded as "acceptable" and 7.52% were dissatisfied with their respective insurance companies. Least satisfaction was expressed by the low income groups as demonstrated in table 5.

The socio-demographic variables showing positive association with dental insurance awareness and satis-

TABLE 1: AWARENESS OF DENTAL INSURANCE VALUE BY SOCIO-DEMOGRAPHIC VARIABLES

Q1. Do you know about your dental insurance value for you and your family?		I know [n, (%)]	I don't know [n, (%)]	*P value
Age	≤25	34 (30.6)	77 (69.4)	.000
	26-35	211 (50.5)	207 (49.5)	
	36-45	45 (62.5)	27 (37.5)	
	46-55	10 (40.0)	15 (60.0)	
	≥56	3 (42.9)	4 (57.1)	
Gender	Male	281 (51.7)	263 (48.3)	.000
	Female	40 (32.8)	82 (67.2)	
Marital status	Single	96 (36.9)	164 (63.1)	.000
	Married	217 (54.9)	178 (45.1)	
	Not known	7 (70.0)	3 (30.0)	
Level of education	Post graduation	25 (31.2)	55 (68.8)	.004
	Under graduation	221 (52.5)	200 (47.5)	
	High school	71 (47.0)	80 (53.0)	
	Below high school	4 (33.3)	8 (66.7)	
Monthly income (SR)	≤3000	5 (19.2)	21 (80.8)	.000
	4000-6000	39 (33.6)	77 (66.4)	
	7000-10,000	159 (52.8)	142 (47.2)	
	≥12,000	113 (54.3)	95 (45.7)	

Chi-square test: \*P value ≤ 0.05

# Numbers do not add up to 675 due to missing responses in various variables

TABLE 2: AWARENESS OF DENTAL INSURANCE RULES BY SOCIO-DEMOGRAPHIC VARIABLES

Q2. Do you know your dental insurance rules?		I know [n, (%)]	I don't know [n, (%)]	*P value
Age	≤25	36 (36.4)	75 (67.6)	.346
	26-35	152 (36.5)	265 (63.5)	
	36-45	33 (45.8)	39 (54.2)	
	46-55	7 (28)	18 (72)	
	≥56	2 (28.6)	5 (71.4)	
Gender	Male	208 (38.2)	336 (61.8)	.143
	Female	38 (31.1)	84 (68.9)	
Marital status	Single	86 (32.8)	176 (67.2)	.200
	Married	156 (39.7)	237 (60.3)	
	Not known	4 (40.0)	6 (60.0)	
Level of education	Post graduation	23 (29.1)	56 (70.9)	.122
	Under graduation	168 (40.1)	251 (59.9)	
	High school	50 (32.7)	103 (67.3)	
	Below high school	3 (25.0)	9 (75.0)	
Monthly income (SR)	≤3000	4 (15.4)	22 (84.6)	.036
	4000-6000	37 (31.9)	79 (68.1)	
	7000-10,000	113 (37.3)	190 (62.7)	
	≥12,000	86 (41.7)	120 (58.3)	

Chi-square test: \*P value ≤ 0.05

# Numbers do not add up to 675 due to missing responses in various variables

TABLE 3: AWARENESS ABOUT VARIOUS TREATMENT OPTIONS BY SOCIO-DEMOGRAPHIC VARIABLES

Q3. What treatment options does your dental insurance cover?		I know [n, (%)]	I don't know [n, (%)]	*P value
Age	≤25	37 (33.6)	73 (66.4)	.135
	26-35	152 (36.6)	263 (63.4)	
	36-45	35 (49.3)	36 (50.7)	
	46-55	6 (24.0)	19 (76.0)	
	≥56	2 (33.3)	4 (66.7)	
Gender	Male	207 (38.4)	332 (61.6)	.487
	Female	42 (35.0)	78 (65.0)	
Marital status	Single	89 (34.4)	170 (65.6)	.365
	Married	155 (39.8)	234 (60.2)	
	Not known	4 (40.0)	6 (60.0)	
Level of education	Post graduation	23 (28.8)	57 (71.2)	.070
	Under graduation	169 (40.8)	245 (59.2)	
	High school	53 (35.3)	97 (64.7)	
	Below high school	2 (16.7)	10 (83.3)	
Monthly income (SR)	≤3000	6 (24.0)	19 (76.0)	.242
	4000-6000	39 (33.3)	78 (66.7)	
	7000-10,000	112 (37.7)	185 (62.3)	
	≥12,000	85 (41.5)	120 (58.5)	

Chi-square test: \*P value ≤ 0.05

# Numbers do not add up to 675 due to missing responses in various variables

TABLE 4: AWARENESS ABOUT PERIOD OF DENTAL INSURANCE BY SOCIO-DEMOGRAPHIC VARIABLES

Q4. What is the period of your dental insurance?		I know [n, (%)]	I don't know [n, (%)]	*P value
Age	≤25	40 (36.7)	69 (63.3)	.003
	26-35	220 (53.0)	195 (47.0)	
	36-45	46 (63.9)	26 (36.1)	
	46-55	10 (43.5)	13 (56.5)	
	≥56	2 (28.6)	5 (71.4)	
Gender	Male	294 (54.5)	245 (45.5)	.001
	Female	44 (37.3)	74 (62.7)	
Marital status	Single	112 (43.4)	146 (56.6)	.002
	Married	219 (56.3)	170 (43.7)	
	Not known	7 (77.8)	2 (22.2)	
Level of education	Post graduation	35 (43.8)	45 (56.2)	.485
	Under graduation	220 (53.3)	193 (46.7)	
	High school	77 (51.7)	72 (48.3)	
	Below high school	6 (50.0)	6 (50.0)	
Monthly income (SR)	≤3000	7 (28.0)	18 (72.0)	.033
	4000-6000	54 (47.8)	59 (52.2)	
	7000-10,000	156 (51.8)	145 (48.2)	
	≥12,000	116 (57.1)	87 (42.9)	

Chi-square test: \*P value ≤ 0.05

# Numbers do not add up to 675 due to missing responses in various variables



TABLE 5: SATISFACTION WITH INSURANCE COMPANIES BY SOCIO-DEMOGRAPHIC CHARACTERISTICS

Q5. Are you satisfied with the insurance company?		Dis-satisfied	Accept-able	Satisfied	Very satisfied	*P value
Age	≤25	10.2	58.3	20.4	11.1	.357
	26-35	7.2	54.6	29.8	8.4	
	36-45	2.7	50.7	34.2	12.3	
	46-55	8.0	60.0	32.0	0.0	
	≥56	16.7	66.7	16.7	0.0	
Gender	Male	8.3	53.3	28.9	9.6	.066
	Female	4.2	65.3	25.4	5.1	
Marital status	Single	10.9	57.6	21.4	10.1	.017
	Married	5.3	53.9	32.7	8.1	
	Not known	10.0	60.0	30.0	0.0	
Level of education	Post graduation	10.1	55.7	24.1	10.1	.141
	Under graduation	6.7	57.7	26.7	8.9	
	High school	9.2	51.3	31.6	7.9	
	Below high school	0.0	33.3	66.7	0.0	
Monthly income (SR)	≤3000	23.1	46.2	26.9	3.8	.035
	4000-6000	12.2	57.4	25.2	5.2	
	7000-10,000	6.7	56.0	28.0	9.3	
	≥12,000	4.9	54.4	30.1	10.7	

Chi-square test: \*P value ≤ 0.05

faction were mainly gender, income level, and marital status at a significance level of  $P \leq 0.05$ . The Kruskal Wallis and Mann-Whitney tests did not show any significant association between satisfaction criteria and socio-demographic variables.

## DISCUSSION

Although great majority of the sample had dental insurance coverage, the level of awareness varied between the socio-demographic subgroups. The results showed that older and high income individuals were more likely to be aware about their dental insurance value for themselves and their families, than younger and low income individuals. The higher level of awareness in older than 30 years individuals may be contributed to the fact that they are more exposed to insurance and financial issues, and are more financially independent than younger individuals. High income individuals having higher level of awareness could be attributed to the fact that they are highly concerned about their social status and acceptance by the society thereby seeking larger dental insurance schemes. The results have also indicated that high level of education

was a strong predictor for better awareness, mostly because these individuals have higher expectations of having a healthy dentition and oral cavity. This may indicate their better knowledge, a positive attitude and a higher value placed towards their dental health. Consequently, this may lead them to seeking treatment and knowing their dental health benefits.

Generally, married couples were more aware of their dental insurance, most likely because of their higher responsibility towards the family or in order to seek better acceptance from the partner by improving their oral hygiene through seeking dental treatment and oral health maintenance.

Among those who expressed dissatisfaction about their dental health insurance, a majority belonged to the low income individuals. This is most probably because of their high expectation that dental treatment will be subsidized by their dental insurance plans.

The results of the present study have to be viewed considering the following limitations. Firstly, the distribution of questionnaire was not even among gen-

ders. Males were predominant in this relatively small sample as the study did not target a larger population. Not all socio-demographic characteristics had a positive influence on the dental insurance awareness and satisfaction. This, we hypothesize, may be due to the fact that dental treatment is absolutely free for Saudi Nationals working in the government sector (expatriates in this study were few;  $n=38$ , 5.7%). The present study collected information about perceived awareness and the respondents were not asked about their individual dental insurance policy in detail. Also, self-reported data has been proven to be less accurate as compared to data collected through observation or by abstraction from dental records. Individual coverage plans may vary considerably in their degree of benefit generosity and therefore analyses of data from different survey sources have historically produced National estimates that drastically vary from one another<sup>12,13</sup> and this study is no exception. Although the data from this study is relatively inconclusive, this study has provided a possible baseline and potentially valuable analysis for future research in the field of dental insurance in the region and beyond.

Slowly but steadily, oral health is being viewed as an integral component of overall health. Therefore dental services should be considered as an essential component of health services. Dental insurance coverage, similarly, should be considered as an integral component of health care coverage, and dental services should be provided with the same level of quality to the entire population as the other health care services.<sup>14</sup>

The information gained from this study should be disseminated to the insured population early enough to ensure better awareness regarding their dental benefits and coverage. In addition, surveying about dental insurance satisfaction should be conducted on regular basis to investigate areas of improvement. Future research should be directed towards investigating the actual awareness of dental insurance coverage and benefits to give the exact measure of the level of awareness and satisfaction.

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