



Knowledge, Attitude And Practice Regarding Dental Service Utilization And Dental Insurance Among IT Professionals In Pune City: A Questionnaire Study

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Abstract

Introduction: Good health is conceded as a fundamental right of every human being of which, oral health is an indispensable part. An adequate use of health services is a prerequisite for the improvement of oral health outcomes. The development and quick rise of dental insurance in recent years has aided in changing the public opinion of dentistry. Hence an attempt is made to assess the knowledge, attitude and practices of IT professionals regarding dental service utilization and dental insurance.

Material And Methods: A study was conducted among the IT professionals of Pune City. The structured, self-administered, close-ended questionnaire was designed to collect the data which consisted of two sections and comprised of 29 questions for assessing the knowledge, attitude and practice among these professionals towards dental insurance and to determine if an awareness lecture on the same could improve their knowledge and attitude on this topic. The reliability statistics were calculated and the Cronbach alpha was 0.631. Statistical analysis was done using descriptive statistics.

Result: In this study, there were a total of 300 participants between 21-48 years of age. About 79.3% were aware of dental hygiene procedures. However, 47.3% of the participants were unaware of companies in India that offer dental insurance policies. About 84.7% agrees to the fact that dental insurance is important for protection of oral health.

Conclusion: The study concluded that IT professionals make effective use of dental services. However, despite their good attitude toward dental insurance, they have little knowledge of the companies that provide coverage.

Keywords: dental, insurance, oral health, policy, professionals, study

Introduction

Good health is conceded as a fundamental right of every human being of which, oral health is an indispensable part¹. Hence, it is rightly called the gateway of the body². Oral health is not only important for appearance and sense of well-being, but also a matter of self-pride and confidence as poor oral health is known to affect the quality of life and self-esteem. Therefore, an adequate use of health services

is a prerequisite for the improvement of oral health outcomes³.

However, the escalating cost of dental treatment is quite a barrier in the utilization of services in developing countries which deprives people from readily availing services from qualified clinicians. It has also resulted in people visiting dentists only for curative services and not seeking preventive and prophylactic dental care⁴.

In developed countries, like the United States, insurance is schemed out to pay the costs associated with dental treatment which comprises of a percentage of the bills from dentist, and other dental service providers. By following this scheme, dental insurance acts as a safeguard for people against financial hardship rooted by unexpected dental expenses. Unlike most western countries, specific dental insurance plans are not common in India⁵.

There are 33 general insurance companies in India with 25 of them providing health insurance. Out of these about 20 provide dental treatment charges reimbursed up to a certain extent or in cases where dental treatment is required as a part of an accident⁶. While each insurance provider's dental insurance coverage has different terms, most insurance firms assure that the insured individuals do not have to pay the medical care facilities directly and that the said member institution or health facility would be required to provide a discount on dental care to those who are covered by a dental insurance policy in India⁵.

Dental insurance has had an impact on dental visit patterns by lowering the expenditure of dental care when it is needed so that the insured individuals face lesser financial barriers to comprehensive dental care. Routine dental visits have also been linked to better oral health⁷. The development and quick rise of dental insurance in recent years has aided in changing the public opinion of dentistry, shifting it from a feared, undervalued profession into a regular and required aspect of health care, along with a critical part of maintaining overall quality of life.

Dental coverage is still in its infancy. It is frequently incorporated into conventional health insurance plans. People would be more than willing to seek preventive and prophylactic care if dental insurance were accessible, decreasing the burden of oral disease and future expenses⁴.

Because IT professionals are the most well-known and common professionals, their dental needs and utilization of dental services aids in acquiring insight into the public's view³. As there is a scarcity of information about dental services covered by social health insurance in India, an attempt is made to assess the knowledge, attitude and practices of IT professionals regarding dental service utilization and dental insurance to determine if awareness and better

insurance schemes could bring about an improvement in their attitude towards dental health.

Materials And Method

A questionnaire study was conducted among IT professionals in Pune city to determine the knowledge, attitude and practice regarding dental service utilization and dental insurance. The study duration was about three months. The participants were selected based on the following criteria: (i) IT professionals, (ii) Participants who were willing to participate in the study. The input parameters for the sample size calculation used were as follows: 80% power of the study, alpha error 0.05, effect size 0.7, and degree of freedom as 5. The calculated sample size was 64 using G*power software version 3.1.9.2 (Heinrich Heine university, Dusseldorf), the final considered sample size for the study was around 300. The convenient sampling technique was used in this study. A structured, self-administered, close ended questionnaire was designed to collect the data which consisted of three parts and comprised of 29 questions related to knowledge, attitude, and practice among IT professionals. The first part consisted of demographic data such as age and gender and the second part consisted of questions based on knowledge, attitude and practice regarding dental service utilization and dental insurance among IT professionals. The reliability statistics was calculated using Cronbach alpha was 0.631. The questionnaire was prepared using Google forms (Google LLC, Mountain View, California, United States) and the link was distributed to the selected participants via email, WhatsApp number and other social media platforms (Instagram, telegram etc.). A brief introduction about the study was given to all the participants. Data collected were entered in a spreadsheet (Microsoft excel 2016). Statistical analysis was done using descriptive statistics.

Results

Table 1 gives the demographic details of the 300 participants, majority of which lie in the age group 25-32 years (45.3%). 57% of the participants were male whereas 43% were female. The annual income of many participants lies between Rs 1 to 3 lac (34%). Table 2 assessed the knowledge of the participants regarding oral health and dental insurance. Of the 300 participants, 76.7% (n=230) were aware of various oral diseases. The source of

knowledge regarding dental insurance was found to be internet for a majority of the participants (40.3%, n=121) followed by dentist (28.3%, n=85). However, 47.3% (n=142) of the participants were unaware of companies in India that offer dental insurance policies and the eligibility criteria for the same (48%, n=144). Table 3 discussed the attitude of the participants regarding dental care and insurance. 91.7% (n=275) agreed that dental care is of utmost importance and that dental health insurance is important for oral health protection (84.7%, n=254). 82.7% (n=248) of participants agreed that decreased dental insurance premiums would make dental treatment more affordable and 82% (n=246) of the participants felt that dental insurance should be mandatory for all employees in order to benefit from it. Table 4 summarizes the participants' practice regarding dental health and insurance. Dental insurance is not provided by many of the companies where the participants work (38.6%, n=116). While 33.3 percent (n=100) spent between Rs1000 and Rs5000 on their previous dental treatment, with private payment being the most common mode of payment (75.3%, n=213). 62.7% (n=188) said they were currently not under any insurance plans.

Discussion

Oral health is an important aspect of overall health, and the majority of oral disorders necessitate professional dental care⁸. Dental services should be used to achieve maximum health benefits. Dental care utilization refers to “the percentage of the population who access dental services over a specified period of time”. It is determined by the use of dental services and as such can be expressed in terms of dental visits made and services received over a specified period. Dental health, on the other hand, is still an overlooked area due to the perception that it is less serious than other sorts of health concerns. It was reported that those without health insurance have considerably poor dental health due to a lack of information⁹.

A total of 51% of participants, in a study conducted by Iselin Bratberg¹⁰, were willing to pay for a dental insurance scheme, indicating a preference for such a system. This could indicate that if individuals were more aware and knowledgeable about the programme, they would be more supportive of it, allowing them to harness the benefits dental

insurance has to offer. One study by Emmanuel Gnanamanickam and *et al.*¹¹ found a strong link between frequent care and oral health, inferring that having dental insurance was linked to improved disease management (less untreated decay and more fillings)¹¹.

The majority^{12,13,14} of studies on insurance coverage and its influence on oral health-care consumption have been undertaken in industrialized nations such as the United States and Canada. In developing countries, studies are limited⁴. Hence this study was conducted to provide important insights regarding utilization of dental service and perception towards dental insurance among IT professionals. As a result, the purpose of this research was to comprehend more about how software professionals in India use dental services and how they perceive dental insurance policies.

The beneficial aspect of dental insurance policies for majority of participants (72.3%), according to this study, was availability of treatment and reduction of monetary burden. This was supported by a study conducted by Maniyar and *et al.*⁴, which found that more than three-quarters of insured participants cited easy accessibility and reduced cost burden as benefits of dental insurance. Three-quarters of the individuals in the uninsured group were optimistic about the results. As a result, both groups supported the government's decision to introduce and devise such policies in India.

Dental insurance has been correlated with increased rates of frequent dental visits as well as the use of more costlier dental procedures. This implies that individuals who are insured will have less financial hurdles to receiving complete dental treatment¹⁵.

In this study, the internet was deduced to be the most popular source of dental insurance knowledge (40.3%). This is in line with a survey conducted by Joshi and *et al.*⁷, which found that the internet was the most common source of information about dental insurance (57%). This could be ascribable to the ease with which internet facilities can be accessed. In order to lessen the burden of oral illnesses, biannual dental visits are highly suggested¹⁴. In this study, 60.7% of the participants (39.4%) visited the dentist at least once a year, but only 20% of European adults in a study done by Siljak S. and *et al.*¹⁶ visited the dentist once a year. Insurance and income, according

to Millar and Locker, are major factors in a person's decision to see a dentist. According to a study conducted in Australia¹⁰, dentally insured individuals are more likely than uninsured adults to receive a regular dental treatment. This is in conformity with studies^{17,18,19}. The larger part of the participants (75.3%) in this survey preferred private financing for their dental care. However, the majority of research participants opt to pay through dental insurance, according to a survey done by M Sathiya Gomathi and *et al.*³

The majority of participants (45.7%) cited excessive paperwork as the main reason for not using dental insurance benefits. In contrast, the majority of participants in a study done by Joshi and *et al.*⁷ mentioned denial of claims as a cause.

Because each country's health-care policies differ, it's difficult to compare the findings of this study with those of others. Efforts need to be taken to raise public knowledge and education about the use of dental services and benefits of dental insurance, as well as to encourage community engagement and ownership. Both the government and commercial entities must take radical steps to simultaneously educate the general public about the importance of oral health, early treatment, and the availability of appropriate dental insurance coverage. The increasing consumption can be attributed to health insurance that covers dental services in emerging countries³. As a result, insurance providers should implement a complete dental insurance plan that would be beneficial to IT professionals as well as to other people.

Recommendations

Effort by the insurance providers to promote more dental insurance programs and raise public awareness about the same will help so that larger parts of people can benefit from them and improve their oral health.

Conclusion

As per the findings of this survey, IT professionals make effective use of dental services. Over half of them seem to have used dental services in the last one year, they are well-informed about the significance of dental health, and they recognize that prevention is preferable to cure. However, despite their good attitude toward dental insurance, they have little knowledge of the companies that provide coverage.

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Tables:

TABLE 1: Demographic details of study participants (N=300)

Sr. No.	Particulars	Responses	Number (N)	Percentage (%)	Total N(%)
1	Age (years)	21-24	40	13.3	300 (100%)
		25-28	67	22.3	
		29-32	69	23	
		33-36	56	18.7	
		37-40	47	15.7	
		41-44	14	4.7	
		45-48	7	2.3	
2	Gender	Male	171	57	300 (100%)
		Female	129	43	
3	Educational	Software engineer	82	27.3	300

	Qualification	B.E, M.E	54	18	(100%)
		B.Tech, M.Tech	41	13.7	
		B.Com, M.Com	29	9.7	
		BSc, MSc	40	13.3	
		BCS, MCS	17	5.7	
		BCA, MCA	22	7.3	
		BBA, MBA	15	5	
4	Annual Income (in lakhs)	1-3 L	102	34	300 (100%)
		4-6 L	80	26.7	
		7-9 L	41	13.7	
		10-12 L	34	11.3	
		13-15 L	35	11.7	
		16-18 L	8	2.6	

TABLE 2: Knowledge of study participants (N=300)

Sr. No.	Questions	Responses	Number (N)	Percentage (%)	Total N(%)
1	Are you aware of various oral diseases?	Dental caries	29	9.7	300 (100%)
		Bleeding gums	27	9	
		Oral cancer	14	4.7	
		All of the above	230	76.7	
2	Are you aware of habits related to oral diseases?	Tobacco chewing	36	12	300 (100%)
		Smoking	26	8.7	
		Alcohol consumption	4	1.3	
		All of the above	234	78	
3	Are you aware of systemic diseases that affects oral health?	Diabetes	59	19.7	300 (100%)
		Hypertension	30	10	
		Respiratory diseases	17	5.7	
		All of the above	194	64.6	

4	Are you aware of dental hygiene practices?	Teeth brushing	46	15.3	300 (100%)
		Flossing	10	3.3	
		Mouth wash	6	2	
		All of the above	238	79.4	
5	Benefits of dental insurance policies	Easy availability of treatment	109	36.3	300 (100%)
		Reduction of monetary burden	108	36	
		Avails seeking treatment in initial period	83	27.7	
6	Source of knowledge of dental insurance schemes	Internet	121	40.3	300 (100%)
		Television/ radio	14	4.7	
		Colleagues	36	12	
		Newspaper	26	8.7	
		Dentist	85	28.3	
		Insurance agent	18	6	
7	Are you aware of companies offering dental insurance plans in India?	Bharti AXA	23	7.7	300 (100%)
		State Bank of India	43	14.3	
		LIC	33	11	
		Bajaj Allianz	21	7	
		Chola MS	1	0.3	
		ICICI Prudential	19	6.4	
		Other	18	6	
		Don't know	142	47.3	
8	Are you aware of the eligibility criteria for dental insurance plans in India?	For adults	31	10.4	300 (100%)
		For children	10	3.3	
		Both	115	38.3	
		Don't know	144	48	
9	Are you aware of documents required for claim process?	Claim form	22	7.3	300 (100%)
		Policy documents	32	10.7	
		Discharge summary	23	7.7	

		KYC documents	26	8.7	
		Consultation bills	13	4.3	
		Original hospital bill	34	11.3	
		Pharmacy bills	9	3	
		Don't know	141	47	
10	Are you aware of any dental facility tied with insurance company?	Private clinic	50	16.7	300 (100%)
		Private hospitals	75	25	
		Municipality hospitals	50	16.7	
		Don't know	125	41.6	
11	Do you know that dental insurance can be availed under travel insurance plan	Comprehensive travel insurance	25	8.3	300 (100%)
		Travel medical insurance	41	13.7	
		Single	28	9.3	
		Multi trip plans	23	7.7	
		Student plans	18	6	
		Don't know	165	55	

TABLE 3: Attitude of study participants (N=300)

Sr. No.	Questions	Responses	Number (N)	Percentage (%)	Total N(%)
1	Need for dental care is important	Strongly agree	161	53.6	300 (100%)
		Agree	114	38	
		Neutral	17	5.7	
		Disagree	2	0.7	
		Strongly disagree	6	2	
2	Dental health insurance is important for oral health protection	Strongly agree	109	36.4	300 (100%)
		Agree	145	48.3	
		Neutral	34	11.3	
		Disagree	5	1.7	
		Strongly disagree	7	2.3	

3	Economic impact of covid-19 outbreak adversely affecting your commitment/ desire to visit the dentist	Strongly agree	87	29	300 (100%)
		Agree	160	53.3	
		Neutral	41	13.7	
		Disagree	9	3	
		Strongly disagree	3	1	
4	Dental insurance policy will make dental treatment reliable	Strongly agree	83	27.7	300 (100%)
		Agree	166	55.3	
		Neutral	45	15	
		Disagree	2	0.7	
		Strongly disagree	4	1.3	
5	Lowered dental insurance premium would make dental treatment affordable	Strongly agree	86	28.7	300 (100%)
		Agree	162	54	
		Neutral	41	13.7	
		Disagree	7	2.3	
		Strongly disagree	4	1.3	
6	Dental insurance should be mandatory benefit for employees	Strongly agree	89	29.7	300 (100%)
		Agree	157	52.3	
		Neutral	34	11.3	
		Disagree	15	5	
		Strongly disagree	5	1.7	
7	Regular dental check-up improves quality of life	Strongly agree	128	42.7	300 (100%)
		Agree	137	45.6	
		Neutral	26	8.7	
		Disagree	6	2	
		Strongly disagree	3	1	

TABLE 4: Practice of study participants (N=300)

Sr. No.	Questions	Responses	Number (N)	Percentage (%)	Total N(%)
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1	Does your company provide dental insurance?	Yes	98	32.7	300 (100%)
		No	116	38.6	
		Maybe	86	28.7	
2	Is it included in medical/health insurance?	Yes	127	42.3	300 (100%)
		No	80	26.7	
		Maybe	93	31	
3	When was the last time you visited a dentist?	0-6 months	124	41.3	300 (100%)
		6-12 months	58	19.3	
		More than 12 months	118	39.4	
4	What was the dental facility used for the last dental treatment?	Private clinics	186	62	300 (100%)
		Public hospital	51	17	
		Dental college	53	17.7	
		NGOs	10	3.3	
5	Reason for opting the above dental facility.	Satisfactory service	105	35	300 (100%)
		Easy access	100	33.3	
		Insurance	27	9	
		Cost-effective	34	11.3	
		Other	34	11.4	
6	Did you undertake any treatment?	Yes	192	64	300 (100%)
		No	108	36	
7	Treatment acquired during last dental visit	Orthodontic treatment (braces)	53	18.5	300 (100%)
		Dentures	6	2.1	
		Root canal treatment/ Restorations	79	27.5	
		Implant/ Surgery	24	8.4	
		Cleaning/ Bleaching	59	20.5	
		Any other	66	23	

8	Expenditure of previous treatment	Less than Rs 1000	68	22.7	300 (100%)
		Rs 1000-5000	100	33.3	
		Rs 5000-10,000	70	23.3	
		More than Rs 10,000	62	20.7	
9	Mode of payment of last dental visit	Insurance	38	13.4	300 (100%)
		Private payment	213	75.3	
		Reimbursement	32	11.3	
10	Are you a part of any plans currently?	General health insurance policy	35	11.7	300 (100%)
		Dental included with medical insurance	16	5.3	
		Social insurance (ESI/CGHS)	19	6.3	
		Reimbursement	32	10.7	
		Multiple schemes	10	3.3	
		Not under any plan	188	62.7	
11	Reason for not utilizing benefits of dental insurance	Slow payments	40	13.3	300 (100%)
		Excessive paperwork	137	45.7	
		Denial of claim	41	13.7	
		High premium	36	12	
		Other	46	15.3	

ABBREVIATIONS

IT	Information Technology
LLC	Limited liability company
Etc	Et cetera
Rs	Rupee