

**DENTIST ATTITUDE TOWARDS E-PATIENTS****Dr. Sudhir Rawlani<sup>1\*</sup>, Dr Divya Dube<sup>2</sup>, Dr. Sushil Naik<sup>3</sup>, Dr Swapnil Patil<sup>4</sup>, Dr  
Monika Khubchandani<sup>5</sup>, Dr Vani Singh<sup>6</sup>****Article History:****Received:03.05.2023****Revised: 12.06.2023****Accepted: 21.07.2023****Abstract**

**BACKGROUND:** The development and expansion of internet represents one of the greatest advances in our ability to communicate and disseminate knowledge. In today's techno savvy era, health care professionals are presented with a growing number of patients who wish to discuss Internet-based health information. And hence sometimes dentists may fear that their advantage in knowledge is decreasing, and may result in an overprotective attitude towards the informed patient. Thus these evolving dentists-patient relationships in an electronic environment entangle many questions about the reaction of dentist's personnel regarding these internet informed patients.

**AIM:** To assess the attitude of dentists towards internet informed patients (e-patients)

**MATERIALS AND METHODS:** The study was a cross-sectional design to assess the attitudes of dentists towards e-patients. Questionnaire content was developed with demographic details on qualification, specialization, age and gender of participants. The sample was selected from the dental institutions of central India which includes 3 dental colleges of Nagpur city. The size of sample was derived to be 80-100 dentists present during the time of study.

**RESULTS:** Majority of the dentist gave a positive response when asked about internet being a useful source of information. 42.9% of dentists lying in the category of 21-30 years of age strongly agreed that they have seen changes in patient attitude towards oral health after gaining information from internet. This study found that 46.9% of MDS participants agreed that information brought by patients sometimes influences their treatment plan.

**CONCLUSION:** In this study, it was found that dentists have always guided their patients to use authenticated and feel necessary to discuss and justify internet gained information brought by patients. The study hypothesized that preoccupation with internet by patient made them more compliant and also observed change in patient's attitude towards oral health.

**Keywords** – e-patient, internet, oral health

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## INTRODUCTION

In today's techno savvy era internet has become one of the strongest tools for communication and proclamation of knowledge. Internet has entitled patients with huge volume of oral health information. In addition to this it provides a vast communication of patients who find themselves in similar medical situations, thereby providing a strong, highly accessible base of support for individuals with health challenges. Such support is especially beneficial for those who are homebound as a result of debilitating illness <sup>(10)</sup>. Because , physicians are no longer the primary gatekeepers of medical information, shared decision making is now emerging as the hallmark of the patient-dentist relationship<sup>(2)</sup>. This may thus change the way in which patients interact with their dentists and how they feel about their relationship with dentist. They may fear that their advantage in knowledge is decreasing, resulting in an overprotective attitude towards the informed patient <sup>(2)</sup>. A patient entering dentist's clinic laden with internet printouts will demand more time and service by the dentists is a common disheartening scenario<sup>(3)</sup>. As limited time is spent with the patient at each encounter, dentists are generally unable to validate information their patients present. Information provided by the internet on authenticated websites of oral health services, educate, and empower patients <sup>(1)</sup>. Even sometimes due to lack of knowledge high-quality information may also be misconceived by such patients. But information gained from unauthenticated websites may be fallacious. Because this healthcare professionals are becoming concerned with control and quality of information available there. <sup>(13)</sup>.

In recent times patients coming to dentists with internet laden information are more conscious regarding their time and service by the dentists; thus this scenario affects the treatment-plan and restricts various different treatment modalities suitable for the patients. In some circumstances it is difficult to manipulate patients coming up with certain self-diagnosis which may be gained from various internet websites. This makes dentist's reaction incredibly important to patient sense of safety, trust and believability.

These evolving dentists-patient relationships in an electronic environment enchant many questions about the reaction of dentist's towards internet informed patients. And, hence additional knowledge obtained from the Internet offers

potential benefit yet may influence decision-making and outcomes in different ways. <sup>(11)</sup>

Thus the locus of power in health care is shifting; instead of the doctor acting as sole manager of patient care a consumerist model has emerged in which patients and their doctors are partners in managing the patient's care. <sup>(12)</sup>

The present day study aim to assess the dentist's attitude towards internet informed patients (e-patients) and their knowledge gained from internet with objective of the study to examine the influence of the dentist personal on their degree of satisfaction with e-patients and to explore the relationship between dentist's attitudes towards patients discussing internet health information.

## MATERIAL AND METHOD

The study protocol was approved by Institutional Ethics Committee of VSPM dental college

### THE STUDY:-

The study was a cross-sectional design to assess the attitudes of dentists towards e-patients. Questionnaire content was developed with demographic details on qualification, specialization, age and gender of participants. A pilot study was also conducted on 10 dentists who were not the part of main study so as to assess the feasibility and to check the validity of questionnaire. The duration of study was 3 months i.e. from May to July 2019.

### THE SAMPLE:-

The sample was selected from the dental institutions of central India which includes 3 dental colleges of Nagpur city. The size of sample was derived to be 80-100 dentists present during the time of study.

### THE DATA COLLECTION:-

The data was collected in the form of questionnaire. In total 15 questions were asked which were based on five point likert scale. These self administered questions were structured in English regarding dentist's attitudes towards internet informed patients.

### DATA ANALYSIS:-

Completed questionnaires were coded and entered into a data base and analyzed by SPSS software.

## RESULTS

Table 1 : Age wise distribution of response among dentist					
		21-30	31-40	41-50	P VALUE
Q1. Do you think internet is useful source of information on oral health for patients	1	10	23	9	0.04
		47.6%	34.8%	69.2%	
	2	10	43	4	
		47.6%	65.2%	30.8%	
	4	1	0	0	
	4.8%	.0%	.0%		
Q2. Do you think patients are likely to misinterpret information on oral health gained from internet	1	5	21	9	0.07
		23.8%	31.8%	69.2%	
	2	16	44	4	
		76.2%	66.7%	30.8%	
	5	0	1	0	
	.0%	1.5%	.0%		
Q3. Do you think information gained from internet has led to patients demand improper dental care?	1	3	19	7	0.04
		14.3%	28.8%	53.8%	
	2	14	43	4	
		66.7%	65.2%	30.8%	
	4	4	4	2	
	19.0%	6.1%	15.4%		
Q4. Have you experienced changes in patient's attitude towards oral health after gaining online information?	1	9	25	4	0.93
		42.9%	37.9%	30.8%	
	2	11	38	9	
		52.4%	57.6%	69.2%	
	4	0	1	0	
		.0%	1.5%	.0%	
5	1	2	0		
	4.8%	3.0%	.0%		
Q5. Information brought by patients sometimes influences your treatment plan?	1	2	15	2	0.39
		9.5%	22.7%	15.4%	
	2	8	27	8	

		38.1%	40.9%	61.5%	
	3	0	4	0	
		.0%	6.1%	.0%	
	4	9	14	2	
		42.9%	21.2%	15.4%	
	5	2	6	1	
		9.5%	9.1%	7.7%	
Q6. Do you think patients who find health information on internet are generally more compliant and less anxious?	1	2	11	1	0.62
		10.0%	16.7%	7.7%	
	2	10	38	10	
		50.0%	57.6%	76.9%	
	3	0	2	0	
		.0%	3.0%	.0%	
	4	6	9	1	
		30.0%	13.6%	7.7%	
	5	2	6	1	
		10.0%	9.1%	7.7%	
Q7. Do you think patients are generally not knowledgeable enough to understand oral health information on internet?	1	4	11	1	0.12
		19.0%	16.7%	7.7%	
	2	10	39	10	
		47.6%	59.1%	76.9%	
	3	1	0	0	
		4.8%	.0%	.0%	
	4	6	7	1	
		28.6%	10.6%	7.7%	
	5	0	9	1	
		.0%	13.6%	7.7%	
Q8. Do you think it is necessary for patients to discuss information gained from internet with their dentists?	1	9	25	4	0.45
		42.9%	38.5%	30.8%	
	2	9	36	9	
		42.9%	55.4%	69.2%	
	4	2	1	0	
	9.5%	1.5%	.0%		

	5	1	3	0	
		4.8%	4.6%	.0%	
Q9. Do you always guide your patients to use authenticated websites for gaining oral health information?	1	4	17	3	0.81
		19.0%	25.8%	23.1%	
	2	14	34	8	
		66.7%	51.5%	61.5%	
	3	1	3	0	
		4.8%	4.5%	.0%	
	4	2	7	2	
		9.5%	10.6%	15.4%	
	5	0	5	0	
		.0%	7.6%	.0%	
Q10. Do you think patients should only rely on dentists and not to look for other resources of information?	1	1	19	4	0.47
		4.8%	28.8%	30.8%	
	2	9	21	5	
		42.9%	31.8%	38.5%	
	3	1	3	0	
		4.8%	4.5%	.0%	
	4	10	21	4	
		47.6%	31.8%	30.8%	
	5	0	2	0	
		.0%	3.0%	.0%	
Q11. Are you sometimes annoyed and feel uneasy when patients bring unreliable oral health information to you?	1	6	25	5	0.95
		28.6%	37.9%	38.5%	
	2	12	34	7	
		57.1%	51.5%	53.8%	
	3	0	1	0	
		.0%	1.5%	.0%	
	4	3	6	1	
		14.3%	9.1%	7.7%	
Q12. Do you think that excessive/over usage of internet by patients for gaining oral health	1	5	15	1	0.44
		23.8%	22.7%	7.7%	

information seems to be irrelevant and unreliable to you?	2	13	39	8	
		61.9%	59.1%	61.5%	
		0	2	1	
		.0%	3.0%	7.7%	
	4	2	4	3	
		9.5%	6.1%	23.1%	
	5	1	6	0	
	4.8%	9.1%	.0%		
Q13. Does your patient always follow your advice after the usage of internet as a source of health information?	1	1	14	4	0.12
		4.8%	21.2%	30.8%	
	2	18	34	9	
		85.7%	51.5%	69.2%	
	3	0	2	0	
		.0%	3.0%	.0%	
	4	1	12	0	
		4.8%	18.2%	.0%	
5	1	4	0		
	4.8%	6.1%	.0%		
Q14. Do you think dentists believe that internet derived information has led to patient dissatisfactions?	1	1	14	3	0.77
		4.8%	21.2%	23.1%	
	2	15	41	8	
		71.4%	62.1%	61.5%	
	3	1	1	0	
		4.8%	1.5%	.0%	
	4	4	9	2	
		19.0%	13.6%	15.4%	
5	0	1	0		
	.0%	1.5%	.0%		
Q15. Does internet represent a threat to dentists-patient relationship?	1	0	8	1	0.12
		.0%	12.1%	7.7%	
	2	8	19	2	
		38.1%	28.8%	15.4%	
	3	1	7	0	

		4.8%	10.6%	.0%
4	11	24	10	
		52.4%	36.4%	76.9%
5	1	8	0	
		4.8%	12.1%	.0%

In this study 100 dentists had participated. They were further subdivided into MDS-BDS category and age wise distribution of the participants was also taken into consideration.

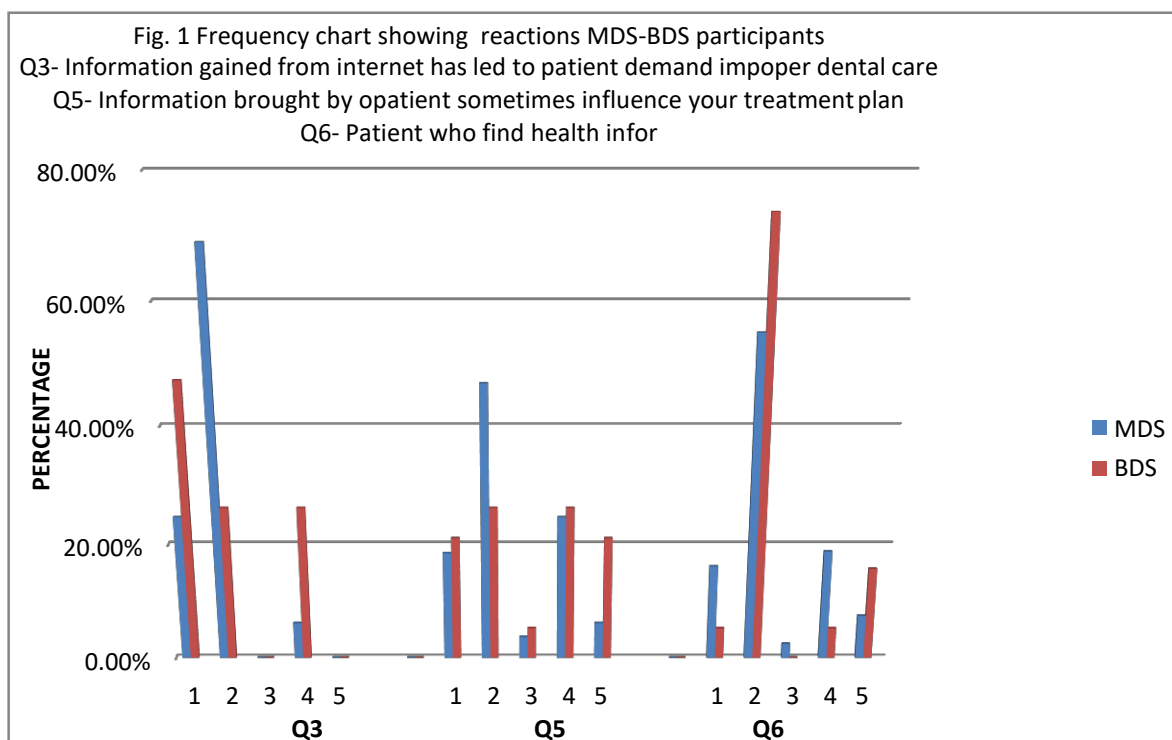
In Q1 Majority of the dentist gave a positive response when asked about internet being a useful source of information. About 47.6% of dentists who lies in the age group of 21-30 years strongly agree about the idea of internet being a useful source of information for patients. 34.8% of dentists lying in the category of 31-40 years and 69.2% of participants lying in the category of 41-50 years also have the same views.<sup>(table1)</sup>

Q4 gives us information about changes in patient’s attitude towards oral health after gaining

information from internet. In this, about 42.9% of dentists lying in the category of 21-30 years of age strongly agree with this statement. Dentists in the category of 31-40 years (37.9%) and 41—50 years also have the same view.<sup>(table1)</sup>

In Q3 dentists were asked about whether information gained from internet has led to patient demanding improper dental care. 69.1% of MDS participants strongly agreed with the statement.<sup>(fig1)</sup>

Q5 illustrates whether information brought by patients influence their treatment plan. About 46.9% of MDS participants dealing with various treatment modalities strongly agree with the statement and 26.3% BDS participants agreed with the same.<sup>(fig1)</sup>

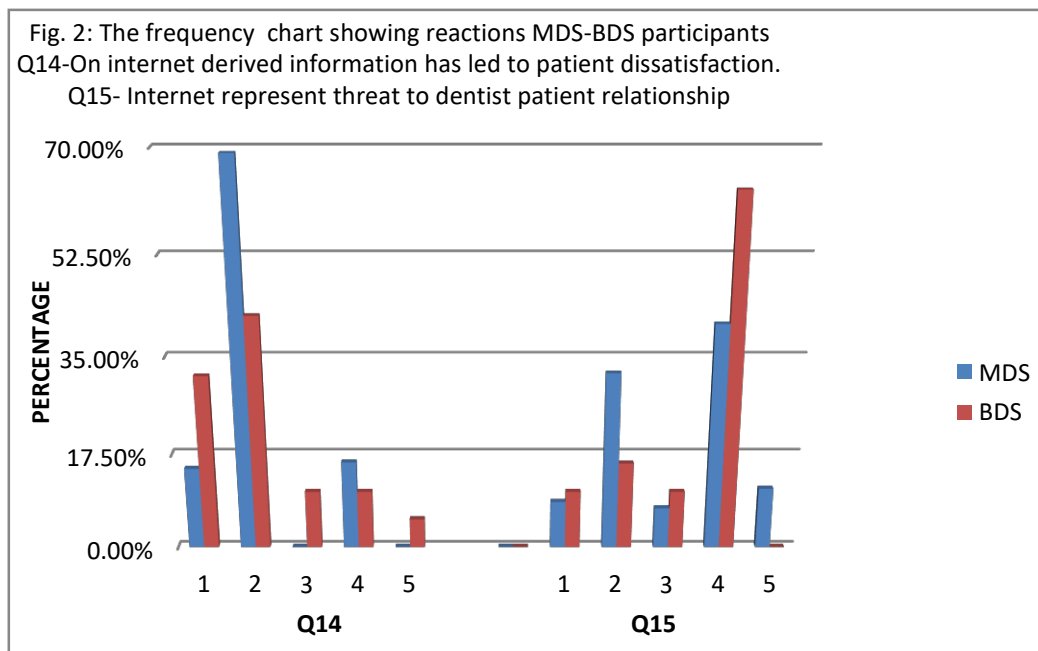


Similarly in Q6 dentists were asked whether such internet informed patients are more compliant and less anxious. 73.7% of BDS participants strongly agreed with the statement while 55% of MDS participant agreed with the same<sup>(fig1)</sup>. 76.1 % Dentists lying in the age group of 41-50 years

strongly agreed with this whereas only 50 % of dentist lying in the age group of 21-30 years agreed with the same. 2.9 % of dentists associated with clinical branches strongly disagree with the statement 16.2% disagreed and 8.8% have no view regarding this.<sup>(table1)</sup>

In Q15 dentists were asked that whether internet represent a threat to dentist's patient relationship. The study found out that 52.4% of dentists in age group of 21-30; 36.4% in age group of 31-40 and 76.9% in age group of 41-50 disagree with the statement whereas 38.1% in age group of 21-30;

28.8% in age group 31-40 and 15.4% in the age group 41-50 agreed with the statement<sup>(table1)</sup>. 40.7% of dentist under MDS category disagree with the statement. 63.2% of BDS participants in the study disagree with this.<sup>(fig2)</sup>



## DISCUSSION

This was a cross-sectional type of study in which 100 dentists participated. The study was carried out through questionnaire, in which 15 questions were

asked to about dentist's attitude their attitude towards internet informed patients. These dentists were further divided into subgroups i.e. BDS-MDS<sup>(fig3)</sup>, and according to their age group<sup>(fig4)</sup>.

Fig3:Distribution of BDS and MDS participants in the study

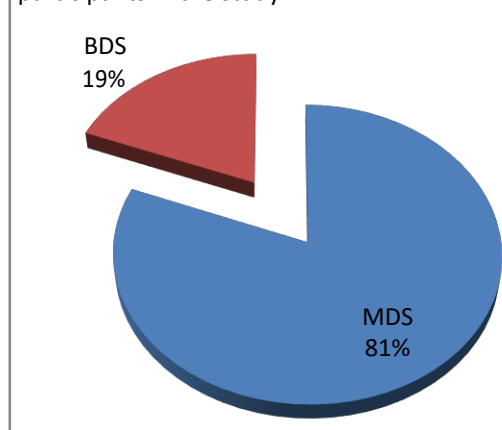
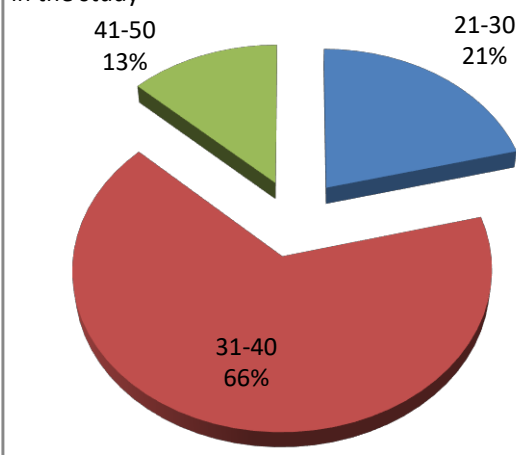


Fig4:Age wise distribution of participants in the study



Majority of dentists about 60% out of 100 participants responded that they agree with the fact that internet is a useful source of information for patients. Study conducted by *sourav sen et al*<sup>(1)</sup> found out similar results regarding internet being a useful source of information.

Nowadays, in this era of technical world people are becoming more conscious about their oral health and make use of internet as a source of information. About 60% of the Dentists agreed when asked about whether they guide their patients to use authenticated websites for gaining oral health information. A study carried out by *Kuppersmith*<sup>(7)</sup> gave the similar views.



Using internet as a source of information may sometimes be misleading or may be misinterpreted by patients and may be due to deprivation of knowledge amongst them. This scenario sometimes might end up with patients making inappropriate decision regarding their treatment plan. Patients may sometimes feel that dentists have modified their thinking towards their disease and decision making in choosing appropriate treatment. This study found that 46.9% of MDS participants agreed that information brought by patients sometimes influences their treatment plan. A study conducted by *I.G Chestnutt and K. Reynolds*<sup>(4)</sup> found out that similar result i.e. 38.8% agreed with this while 35.8% gave no views on this. Contradictory results were given in the study conducted by *Sue Hollander*<sup>(5)</sup> that 50.0% of physicians disagreed with the same. This study found out that 57.4% of clinical practitioners agreed with the fact that patient after gaining oral health information are more compliant and less anxious. Similar results were found in study conducted by *Sue Hollander*.<sup>(5)</sup>

A greater access to internet by patients and deriving information from it will eventually bring to strengthen patient's role in their own oral health. This may not always be rightful when internet derived information is itself unauthenticated. It has now become the need of the hour that dentist should discuss the internet based information brought by the patient and advice them for browsing authenticated websites. In this study, out of 100 participants about 61% of dentist agreed that their patients always follow their advice after usage of internet as a source of health. Similar results were found in the study conducted by *Murray et al.*<sup>(8)</sup>

Earlier dentists were the only source of information regarding their oral health status. Patients generally make use various websites for gaining oral health information. Because of this emergence and advancement of internet, dentists are no more the primary gatekeepers of oral health. According to this study 47.6% dentists in the age group of 21-30 years disagreed with the fact that patient should only rely on dentists regarding oral health information. Similar results were found in study conducted by *Shmuel Givon et al.*<sup>(2)</sup>

In this 21<sup>st</sup> century technology is advancing and with this, reach of internet and its sources are becoming very much pocket friendly therefore being used by every next person. In this scenario a barrier of concern is the quality of information as well the knowledge of patient regarding this online

health information. In this study it was observed that 64% of dentists agreed with the fact that patients are likely to misinterpret the information gained from internet. Similar results were found in the study conducted by *I.G Chestnutt and K. Reynolds*<sup>(4)</sup>.

We all are much aware with the fact that internet has gained its popularity in past few years. And dentists in older age group are less acquainted with frequent use of internet regarding oral health. It was observed that 52.4% of dentists in the age group of 21-30 agreed that they observed changes in patient's attitude towards oral health after gaining online information. Whereas 69% of dentist in the age group of 41-50 agreed with the same. Similar results were found in the study conducted by *Yusuf and Alhaji*<sup>(9)</sup>

## CONCLUSION

In the recent times internet has made its own importance by providing information on various subjects and aspects including oral health. Usage of Internet among general population is tremendously increasing. With this increasing usage of internet by patient to gain oral health information dentist-patient relationship is changing. Nowadays clinicians are facing new challenges in justifying and counseling patients coming up various internet based health information. In this study, it was found that dentists have always guided their patients to use authenticated and feel necessary to discuss and justify internet gained information brought by patients. The study hypothesized that preoccupation with internet by patient made them more compliant and also observed change in patient's attitude towards oral health.

Though the limitations of the study was regarding selection and availability of dentists from dental colleges of Nagpur city only. Further research is recommended for generalized results with a much larger sample size.

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