

Original Article



Dental practitioners' perspectives on IDIOT syndrome – A cross-sectional survey

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Abstract

Background: The advent of the digital age has ushered in many benefits that have transformed how we live and work. The internet has brought about many positive changes, but has also led to challenges, such as the emergence of internet-derived information obstructing treatment (IDIOT) syndrome (IS). Thus, this survey aimed to assess the perspectives of dental practitioners regarding IS.

Methods: This cross-sectional mixed-mode survey was conducted among 430 dental practitioners in Chennai using a multi-stage sampling method. A customized pretested questionnaire was used to assess the practitioners' perspectives regarding IS. Descriptive analysis was done using SPSS software version 25.

Results: Out of the 800 participants, 430 completed the questionnaire, yielding a response rate of 56%. Most dental practitioners who participated in the survey had a clinical experience of more than 5 years. About 65.60% of the dental practitioners were aware of IS, and most (83%) had encountered patients with the condition. Patients used internet-derived information mostly to check their symptom-related conditions (73.9%) and for self-medication and home remedies (68.8%). Most dental practitioners (86.7%) perceived that such patients did not comply with the prescribed treatment plan.

Conclusion: This survey found that most dental practitioners frequently encounter patients with IDIOT syndrome, which influences the prescribed treatment plan. The management of such patients jeopardizes the psychological health and well-being of healthcare professionals. Therefore, it is essential to address the proliferation of misleading healthcare information online through regulatory measures that ensure the credibility and accuracy of such content.

Keywords: Internet addiction disorder, Internet use, Dentists

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Introduction

The advent of the digital age has ushered in many benefits that have transformed how we live and work. The internet has revolutionized our world in many positive ways, but it has also resulted in specific challenges. One such challenge is the emergence of internet-derived information obstructing treatment (IDIOT) syndrome (IS). This condition arises when individuals blindly rely on unverified medical information online and abandon their prescribed treatment regimens.¹ Cyberchondria is another term used to describe IS. Cyberchondria is becoming an increasingly significant concern for healthcare providers, involving excessive or repetitive online searches for health information, which can often lead to heightened anxiety or distress. This phenomenon consists of several components, including lengthy online research, unfavorable emotional states, and seeking reassurance from physicians.² The widespread use of electronic devices such as smartphones, laptops, and tablets has exaggerated this problem.

The internet has revolutionized the ways of accessing medical information. It has become an indispensable

element of everyone's daily schedule. Furthermore, technological advancements have made it easier to access this information on search engines, such as Google, internet Explorer, and Bing, or healthcare websites such as WebMD, Mayo Clinic, and apps like Medscape and MyFitnessPal, as they are readily available to patients. Access to affordable and convenient health information has numerous benefits, including enhanced health literacy and the ability to make informed decisions about one's health.³ It allows for informed discussions with physicians, early diagnosis and prevention of harmful conditions, better self-care, and increased patient understanding. This empowers individuals to take charge of their health and make informed decisions.

It is important to note that the internet can be a valuable tool in promoting one's health and well-being. However, it can also hinder treatment, leading to incorrect treatment and potentially severe harm to the patient's health. Additionally, individuals tend to self-diagnose their medical conditions by searching the internet, after which they undertake DIY (do it yourself) treatments



before consulting a physician. Using “Dr. Google” for self-diagnosis and self-treatment might provide temporary solutions, but it can also lead to serious health problems.¹ Furthermore, using such search engines and health portals, resulting in an assumed diagnosis and self-treatment, affects doctor-patient relationships.⁴ It is advisable to always consult a physician before taking any medication or treatment.

Due to cyberchondria or IS, doctors are experiencing increased pressure and anxiety in diagnosing and treating individuals with various diseases.⁵ The prevalence of cyberchondria among the general population is 50%–55% in urban areas of India.⁶ However, scientific research on the experiences and perspectives of dental practitioners regarding IS is limited in India. This study aimed to assess challenges presented to dental practitioners due to patients accessing online information and to examine how dental practitioners perceive the advantages and disadvantages of internet-derived information. Additionally, it explored the impact of IDIOT syndrome on patients’ treatment planning and management and its impact on the doctors’ personal lives.

Methods

A cross-sectional survey was conducted among dental practitioners in Chennai, Tamil Nadu, India, to assess their perceptions of IDIOT syndrome. Dental practitioners who had completed at least a Bachelor of Dental Surgery (BDS) were included in the study. Questionnaires with missing data were excluded. Ethical clearance for this study was obtained from the Institutional Ethical Review Board (IERB no 48/I/IERB/2023/TNGDCH).

Questionnaire development

A panel of experts, including three dental practitioners, two public health dentists, and a lay person, developed a customized, structured, and valid questionnaire. The questionnaire underwent face and content validity checks by a panel of experts, obtaining a score of 0.80, demonstrating good validity. The questionnaire consisted of two sections: the first section contained sociodemographic details, and the second section comprised 13 questions assessing dental practitioners’ perspectives on the prevalence, impact, and management of IS. The questionnaire consisted of closed-ended items. Questions Q1, Q2, Q3, Q7, Q9, and Q10 allowed for a single response, while Q4, Q5, Q6, Q8, Q11, Q12, and Q13a–c permitted multiple responses. A pilot study assessed the reliability of the questions using test-retest reliability at an interval of 15 days among 30 dental practitioners. The internal consistency was good, with a test-retest reliability of 0.84, as measured by Cronbach’s alpha.

Sample size

The sample size was calculated using OpenEpi, a z-value

of 1.96, a 95% confidence level, and a margin of error of 5%. The optimum sample size was calculated to be 420 participants. However, based on an expected response rate of 50%, 800 participants were considered.

Sampling

A multi-stage sampling method was used to collect data in Chennai, Tamil Nadu, India. Out of 15 zones, 10 were selected randomly using the lottery method. Eight areas were randomly selected from each of the 10 zones, and from each area, 10 dental practitioners were randomly selected ($10 \times 8 \times 10$), ensuring representation and diversity. The data was collected between March 2023 and May 2023 by self-administered questionnaires in printed form or as a Google form link, according to participant preference, after obtaining their informed consent. The survey comprised 15 questions and took approximately 15–20 minutes to complete. The collected data were then transferred and tabulated in MS Office Excel 2019. Descriptive statistics were implemented using SPSS version 25 (IBM, Chicago).

Results

The survey’s response rate was 56%, generating a total of 450 responses out of 800 selected participants, with no difference in response rate from different zones. Twenty forms were excluded due to missing data, and 430 complete responses were considered for analysis. Among the 430 participants, 148 (34%) were male and 282 (66%) were female, with a mean age of 31.53 ± 6.72 years. More than half of the dental practitioners (54.20%) were BDS graduates with a mean working experience of 9.05 ± 5.63 years (Table 1).

Most dental practitioners (65.60%) were aware of IS, and the majority (83%) had encountered patients with IS. Dental practitioners reported that individuals with IS used internet-derived health information to check their symptoms and related conditions (73.9%), for self-

Table 1. Sociodemographic characteristics of participants

Variables	n (%)
Sex	
Male	148 (34)
Female	282 (66)
Age (y)	
Mean \pm SD	31.53 ± 6.72
Range	23–80
Qualification	
Bachelor of Dental surgery	233 (54.20)
Master of Dental surgery	197 (45.80)
Working experience (y)	
Mean \pm SD	9.05 ± 5.63
Range	1–45

medication and home remedies (68.8%), and verification of treatment options (43.2%). The advantages of internet-derived information included increased awareness (82.3%) and increased attitude towards prevention (68.8%), whereas disadvantages included confusion regarding symptoms (87%) and an increase in fear and anxiety (86.5%).

According to dental practitioners, individuals with complaints of dental caries (64.4%), those requiring cosmetic treatment procedures (63.2%), and those with malocclusion (52.1%) were often associated with IS. Most dental practitioners (86.7%) reported that patients with IS do not comply with the prescribed treatment plan. Most practitioners managed IS by explaining to patients patiently (79.5%), seeking expert opinions from specialists in each field (36.3%), and additional investigations, like dental X-rays (35.8%) or additional charges (27.2%). The physical impacts caused by IS on dental practitioners included fatigue (51.8%), decreased work performance (50.4%), and strain (55.8%). IS in patients also affected the dental practitioners' work-life balance (56%) and leisure time (54.2%). It also affected dental practitioners financially (34%) and psychologically, in the form of stress (61.6%), frustration (60.7%), and anger (44.8%) (Table 2).

Discussion

This survey was conducted among 430 dental professionals in Chennai, India, to explore their experiences and perspectives on IS and its physical, social, and psychological impact on dental practitioners.

While only 65.60% of dental practitioners knew the term IS, 83% agreed to have encountered such patients when IS was defined for them. According to dental practitioners, IS was observed in half of the patients visiting dental clinics, consistent with the findings of Makarla et al,⁶ reporting IS among almost half of the patients encountered. Another study by Murray et al⁷ reported that almost all doctors had encountered patients who cited online information.

Dental practitioners reported that many patients use the internet to look up information about their symptoms, try self-medication and home remedies, and verify treatment options. These findings are consistent with a study by Wangler and Jansky,⁴ who found that patients consulted the internet mainly for information on symptoms, therapies, and medicines.

Many dental practitioners believe internet-derived information has advantages, such as increased awareness (82.3%), better attitudes towards prevention (68.8%), and improved understanding of health issues (66.3%). Baker et al⁸ also noted that online information can help patients communicate more effectively with healthcare professionals. However, there are also downsides to relying on the internet for health information. The current study identified confusion about symptoms (87%), increased fear and anxiety (86.5%), and difficulty distinguishing

Table 2. Perspectives of dental practitioners about IDIOT syndrome

S. No.	Questions	Responses	n (%)
1.	Awareness of IS	Aware	282 (65.60)
		Not aware	148 (34.40)
2.	Encountering patients with IS	Encountered	357 (83)
		Not encountered	73 (17)
3.	Frequency of encountering patients with IS	Less frequent	189 (44)
		Frequent	197 (45.80)
		More frequent	44 (10.20)
		Disease prevention	100 (23.2)
		Symptoms related to conditions	318 (73.9)
		Verification of diagnosis	121 (28.1)
		Self-medication and home remedies	296 (68.8)
4.	Patients seeking Internet-derived health information according to the dentist	Cross-assessment of investigation	146 (33.9)
		Verification of treatment options	186 (43.2)
		Treatment methods in alternative medicine	157 (36.5)
		Methods of first aid	132 (30.6)
		Doctor's / Lab location	124 (28.8)
		Assessment of reviews	94 (21.8)
		Online consultation, like e-dental services	109 (25.3)
		Increases awareness	354 (82.3)
		Can provide guidance	248 (57.7)
5.	Advantages of Internet-derived information	Early detection and treatment of fatal conditions	272 (63.3)
		Better patient understanding	285 (66.3)
		Increased attitude towards prevention	296 (68.8)
		Increase in acceptance of diagnosis and treatment plan	216 (50.2)
		Deterioration of prognosis	322 (74.8)
		Confusion regarding symptoms	374 (87)
6.	Disadvantages of Internet-derived information	Increase in fear and anxiety	372 (86.5)
		Self-medication	354 (82.3)
		Cannot differentiate facts from myths	368 (85.5)
		Decreased acceptance of diagnosis and treatment plan	332 (77.2)
7.	Group of people most affected by IS	Doctors	147 (34.2)
		Engineers	68 (15.8)
		Students	133 (30.9)
		All people	82 (19.1)
		Dental caries	277 (64.4)
		Periodontal disease	216 (50.2)
		Malocclusion	224 (52.1)
8.	IS is common in patients with the following conditions	Fluorosis	145 (33.7)
		Oral cancer	182 (42.3)
		Trauma	102 (23.7)
		Edentulism	79 (18.3)
		Cosmetic procedures	272 (63.2)
		All procedures	129 (29.5)

Table 2. Continued.

S. No.	Questions	Responses	n (%)
9.	IS affects the treatment plan of patients with which condition?	Emergency	104 (24.2)
		Acute conditions	137 (31.9)
		Chronic conditions	189 (43.9)
10.	IS affects the patient's acceptance of the treatment plan.	Affects	373 (86.7)
		Does not affect	57 (13.3)
11.	Key phases in the healthcare journey where patient acceptance of treatment is influenced by IS	Reporting of patients	124 (28.8)
		Investigations	141 (32.8)
		Diagnosis	104 (24.2)
		Treatment planning	134 (31.2)
		Treatment compliance	185 (43.1)
		Follow up	116 (27)
12.	Management of patients with IS	By explaining to patients patiently	342 (79.5)
		By seeking expert opinion	156 (36.3)
		By added investigation	154 (35.8)
		By added charges	117 (27.2)
		By referring to other dentists	91 (21.1)
		By using consent forms	8 (1.8)
13.	Impact on dentists due to IS a. Physical impact	Fatigue	223 (51.8)
		Work performance	217 (50.4)
		Strain	240 (55.8)
		No impact	5 (1.2)
	b. Social impact	Affects work-life balance	241 (56)
		Affects leisure time	233 (54.2)
		Affect Financial aspect	150 (34)
		Affects mental peace	8 (1.8)
		No impact	5 (1.2)
	c. Psychological impact	Fear	69 (16)
		Anxiety	135 (31.4)
		Stress	265 (61.6)
		Frustration	261 (60.7)
		Anger	193 (44.8)
		Depression	87 (20.2)
		No impact	5 (1.2)

IS, Internet-derived information obstructing treatment syndrome.

facts from myths (85.5%) as some issues noted among patients accessing the internet for self-diagnosis and treatment. Powell et al⁹ found that inaccurate information can lead to harmful health decisions and inappropriate self-diagnoses. The overwhelming amount of information available online causes confusion and anxiety.⁹ This syndrome highlights the need for individuals to be cautious and discerning when seeking information online, particularly when it comes to health-related matters, to ensure they are getting reliable and accurate information.

According to dental practitioners, individuals

presenting complaints of dental caries (64.4%), those in need of cosmetic treatment procedures (63.2%), and those with malocclusion (52.1%) are frequently associated with IS. This finding could be attributed to the increased social media promotions for tooth whitening agents and aligners.¹⁰

The majority of dental practitioners (86.7%) reported noncompliance either with the prescribed treatment plan during investigations (32.8%) or with medications (43.1%). Patients seek diagnostic and treatment options from the internet and, considering their self-diagnosis and treatment plan ideal, demand a specific treatment and Chestnutt and Reynolds,¹¹ which reported that 31% of respondents agreed that information gained from the internet had led to patients demanding more complex dental treatments. Similarly, a study conducted by Murray et al⁷ also reported that cyberchondria caused patients to request a change in medication (31%), extra investigation (26%), or a referral to a specialist (13%). Hence, IS adversely affects the doctor-patient relationship, which is the core principle of the healthcare profession.

The majority of dental practitioners (79.5%) manage patients with IS by patiently explaining the treatment process and providing them with complete information. They also help patients differentiate between myths and facts found on the internet. This approach aligns with a study by Wangler and Jansky,⁴ who found that 63% of health practitioners gave detailed explanations regarding treatment to prevent patients from using the internet. However, some dental practitioners in our study managed such patients by seeking expert opinion (36.3%), conducting additional investigations (35.8%), or charging extra fees (27.2%). These approaches were similar to a study by Ahmad et al,¹² where physicians reported dismissing patients, referring them to specialists, or charging extra for their time.

An ethical dilemma will often prevail between beneficence and autonomy in IS patients. To provide a beneficial treatment plan, the doctor has to spend significant time and energy explaining issues to the patient. Managing patients with IS also jeopardizes the psychological health and well-being of healthcare professionals. The physical impacts due to IS include fatigue (51.8%), decreased work performance (50.4%), and strain during work (55.8%) due to the difficulty of handling patients with cyberchondria. These physical impacts ultimately affect dental practitioners' overall health. Many dental practitioners felt that IS affected their work-life balance (56%), leisure time (54.2%), and finances (34%). Patients with cyberchondria require extra time and attention, which is taken from other patients, leading to reduced income. Explaining internet health information to patients with cyberchondria is time-consuming, as noted in previous studies, including those by Sommerhalder et al¹³ and Murray et al.⁷ Recent research

by Wangler and Jansky⁴ also found that patients with cyberchondria often require extra counselling time (92%).⁴ In the present study, the majority of dental practitioners were affected psychologically, leading to stress (61.6%), frustration (60.7%), and anger (44.8%) when managing patients with IS. This is in line with a study by Ahmad et al,¹² which found that physicians experience difficulties due to internet health information leading to headaches, annoyance, irritation, and frustration.

It has been observed that an increasing number of patients are relying on the internet for medical information before seeking professional medical advice. Given this trend, enhancing the quality of online medical information is of utmost importance, as many patients seek comprehensive details about their illnesses to gain a deeper understanding of associated complications. Nevertheless, it is imperative for individuals using the internet to exercise discernment and verify the appropriateness and reliability of the information they find online.¹⁴ Developing communication strategies that address patient concerns stemming from internet-derived information will involve providing patients with trusted dental information sources, fostering open dialogue, and addressing misconceptions.

Limitations

The survey's methodology was carefully designed to ensure that the data collected would be representative and reliable, though the possibility of non-response bias cannot be ruled out.

Conclusion

Most dental practitioners have frequently encountered patients with IS, which influences the prescribed treatment plan and the prognosis of the disease. Individuals often research medical conditions online based on their symptoms, which can often result in an overwhelming amount of internet-derived health information that may be difficult to process. Even though internet-derived information increases patient awareness and health behaviors, it can also precipitate unnecessary fear and anxiety due to incorrect information, self-diagnosis, and self-treatment, which could be detrimental to the prognosis of the disease. Therefore, it is imperative to address this issue by creating awareness and regulating the availability of online information. Enhancing the quality of online health information requires the implementation of regulatory policies that certify websites based on the validity, credibility, and adherence to evidence-based medical standards. Moreover, when accessing internet-derived information, search engines should be able to filter and prioritize more authentic websites. Likewise, educating people regarding evaluating the quality of online information and consulting evidence-based sources is paramount.

Authors' Contribution

Conceptualization: Dikshita Mehta, A. Sujatha, S.G. Ramesh Kumar, Even Leena Selvamary.

Data curation: Dikshita Mehta.

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Competing Interests

The authors declare no conflicts of interest.

Data Availability Statement

The datasets generated and/or analyzed during the current study are available from the corresponding author on reasonable request.

Ethical Approval

The Institutional Ethical Review Board (IERB no 48/I/IERB/2023/TNGDCH) granted ethical clearance for this study.

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Supplementary Files

Supplementary file 1. Questionnaire for data collection

References

- Balaji MS, Ramya R, Keshavamurthy CD, Chandrashekar HC, Maiti D. A breviloquent review article on "IDIOT syndrome". *Int J Sci Res.* 2022;11(3):1-2. doi: [10.36106/ijsr/7910101](https://doi.org/10.36106/ijsr/7910101).
- Starcevic V, Berle D, Arnáez S. Recent insights into cyberchondria. *Curr Psychiatry Rep.* 2020;22(11):56. doi: [10.1007/s11920-020-01179-8](https://doi.org/10.1007/s11920-020-01179-8).
- Patanapu SK, Sreeja CS, Veeraboina N, Reddy KV, Voruganti S, Anusha P. Prevalence and effect of cyberchondria on academic performance among undergraduate dental students: an institutional based study. *Ind Psychiatry J.* 2022;31(2):228-34. doi: [10.4103/ipj.ipj_272_21](https://doi.org/10.4103/ipj.ipj_272_21).
- Wangler J, Jansky M. General practitioners' challenges and strategies in dealing with internet-related health anxieties—results of a qualitative study among primary care physicians in Germany. *Wien Med Wochenschr.* 2020;170(13-14):329-39. doi: [10.1007/s10354-020-00777-8](https://doi.org/10.1007/s10354-020-00777-8).
- Rajaram Mohan K, Fenn SM, Pethagounder Thangavelu R. Internet derived information obstruction treatment (IDIOT) syndrome: a breviloquent review. *Cureus.* 2022;14(8):e27945. doi: [10.7759/cureus.27945](https://doi.org/10.7759/cureus.27945).
- Makarla S, Gopichandran V, Tondare D. Prevalence and correlates of cyberchondria among professionals working in the information technology sector in Chennai, India: a cross-sectional study. *J Postgrad Med.* 2019;65(2):87-92. doi: [10.4103/jpgm.JPGM_293_18](https://doi.org/10.4103/jpgm.JPGM_293_18).
- Murray E, Lo B, Pollack L, Donelan K, Catania J, Lee K, et al. The impact of health information on the internet on health care and the physician-patient relationship: national US survey among 1,050 US physicians. *J Med Internet Res.* 2003;5(3):e17. doi: [10.2196/jmir.5.3.e17](https://doi.org/10.2196/jmir.5.3.e17).

8. Baker L, Wagner TH, Singer S, Bundorf MK. Use of the internet and e-mail for health care information: results from a national survey. *Jama*. 2003;289(18):2400-6. doi: [10.1001/jama.289.18.2400](https://doi.org/10.1001/jama.289.18.2400).
9. Powell J, Inglis N, Ronnie J, Large S. The characteristics and motivations of online health information seekers: cross-sectional survey and qualitative interview study. *J Med Internet Res*. 2011;13(1):e20. doi: [10.2196/jmir.1600](https://doi.org/10.2196/jmir.1600).
10. Fittler M, Rozmer Z, Fittler A. Rampant online marketing of teeth whitening products: evaluation of online information, labelling accuracy and quantitative analysis of high peroxide content gels. *Heliyon*. 2023;9(9):e19463. doi: [10.1016/j.heliyon.2023.e19463](https://doi.org/10.1016/j.heliyon.2023.e19463).
11. Chestnutt IG, Reynolds K. Perceptions of how the internet has impacted on dentistry. *Br Dent J*. 2006;200(3):161-5. doi: [10.1038/sj.bdj.4813195](https://doi.org/10.1038/sj.bdj.4813195).
12. Ahmad F, Hudak PL, Bercovitz K, Hollenberg E, Levinson W. Are physicians ready for patients with internet-based health information? *J Med Internet Res*. 2006;8(3):e22. doi: [10.2196/jmir.8.3.e22](https://doi.org/10.2196/jmir.8.3.e22).
13. Sommerhalder K, Abraham A, Zufferey MC, Barth J, Abel T. Internet information and medical consultations: experiences from patients' and physicians' perspectives. *Patient Educ Couns*. 2009;77(2):266-71. doi: [10.1016/j.pec.2009.03.028](https://doi.org/10.1016/j.pec.2009.03.028).
14. Kuter B. Evaluation of the quality and reliability of internet information on fissure sealants using JAMA benchmark and HONcode seal. *J Oral Health Oral Epidemiol*. 2022;11(3):151-5. doi: [10.34172/johoe.2022.05](https://doi.org/10.34172/johoe.2022.05).