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Research Article

Evaluation of Information, Content, Quality and Readability of Information on the Internet About Dental Implants

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Abstract

Objective: The aim of this study was to evaluate the quality, reliability and readability of the information and content about dental implants on the Internet.

Material and Methods: The most searched terms on the internet were determined as "dental implant" and "tooth implant" using the Google Trends application. A total of 220 websites were scanned according to search terms using Google and Yahoo search engines, and 45 websites matching the criteria were included in the study. These websites were evaluated according to the DISCERN questionnaire, JAMA criteria, and the FRES and FKGL readability formula. ANOVA, Kruskal Wallis, Mann-Whitney U and Fischer's exact tests were used for comparisons between data. $P < 0.05$ was considered to be statistically significant.

Results: It was determined that 47%(n=21) by private dental clinics, 33%(n=15) by health sites, and 20%(n=9) by dentists of the 45 websites were shared. Health websites had significantly higher DISCERN scores than other websites($P \leq 0.05$). When evaluated according to JAMA criteria, it was determined that the freshness criteria of the websites were the least (42%, n=19) and the patent rights criteria were the most(82%, n=37). Only seven websites had the HONcode seal detected. The average FRES and FKGL were 55.94 and 10.09, respectively, There was no statistically significant difference related to FRES and FKGL scores between groups ($P > 0.05$).

Conclusions: The quality and readability of web-based information about dental implants were poor and insufficient. There is a need for websites that offer high-quality data with better readability for dental implant patients.

Keywords: Content, Dental implant, Information quality, Internet, Readability.

Özet

Amaç: Bu çalışmanın amacı internetteki diş implantları ile ilgili bilgi ve içeriklerin kalitesini, güvenilirliğini ve okunabilirliğini değerlendirmektir.

Gereç ve Yöntemler: İnternette en çok aranan terimler Google Trends uygulaması kullanılarak "dental implantı" ve "tooth implantı" olarak belirlendi. Google ve Yahoo arama motorları kullanılarak toplam 220 web sitesi arama terimlerine göre tarandı ve kriterlere uyan 45 web sitesi çalışmaya dahil edildi. Bu web siteleri DISCERN anketi, JAMA kriterleri ve FRES ve FKGL okunabilirlik formülüne göre değerlendirildi. Veriler arasındaki karşılaştırmalarda ANOVA, Kruskal Wallis, Mann-Whitney U ve Fischer'in kesin testleri kullanıldı. $P<0.05$ istatistiksel olarak anlamlı kabul edildi.

Bulgular: 45 sitenin %47'sinin ($n=21$) özel diş klinikleri, %33'ünün ($n=15$) sağlık siteleri ve %20'sinin ($n=9$) diş hekimleri tarafından paylaşıldığı belirlendi. Sağlık web sitelerinin DISCERN puanları diğer web sitelerine göre anlamlı derecede yüksekti ($P\leq 0.05$). JAMA kriterlerine göre değerlendirildiğinde web sitelerinin güncellik kriterlerinin en az (%42, $n=19$), en fazla ise patent hakları kriterlerinin (%82, $n=37$) olduğu belirlendi. Yalnızca yedi web sitesinde HONcode mührü tespit edildi. Ortalama FRES ve FKGL sırasıyla 55.94 ve 10.09 idi. Gruplar arasında FRES ve FKGL skorları açısından istatistiksel olarak anlamlı fark yoktu ($P>0.05$).

Sonuç: Dental implantlara ilişkin web tabanlı bilgilerin kalitesi ve okunabilirliği zayıf ve yetersizdi. Diş implantı hastaları için daha iyi okunabilir, yüksek kaliteli veriler sunan web sitelerine ihtiyaç vardır.

Anahtar Kelimeler: İçerik, Diş implantı, Bilgi kalitesi, İnternet, Okunabilirlik.

Introduction

With the increasing access opportunities in today's global world, the internet has become one of the most important and frequently used information sources about health (1,2). In the USA, internet-based health information has become the source where patients get information about treatments after receiving doctor's recommendations (2). When patients search for information about dental health or treatment on the Internet, they primarily use websites and see the Internet as a reliable source for patient information about dental practices, treatment procedures, risks, benefits, and alternatives (3). Due to the uncontrollable nature of the

Internet, the accuracy of the data available on the Internet is still debated (4). In addition, the accuracy and quality of health information on the internet also affects patients' compliance with treatment and their communication with their doctors (5). Several methods have been developed to objectively evaluate the quality of health information to minimize the possible disadvantages of the use of the Internet for informational purposes (6). A study evaluating the readability of internet-based health information noted that poor readability can limit the usability of websites (7).

Tooth loss is one of the most important problems with a high incidence in many countries, and it also, partial or complete tooth loss affects the quality of life by negatively affecting the physiological, biological and social status of the person (8,9). Today, dental implants with clinically proven long-term success are seen as the most popular treatment option preferred to replace lost teeth (10–12). Moreover, Chestnutt and Reynolds (13) determined that dental implants were the third most common topic in dentistry on the Internet.

The Internet is seen as a reliable source for informing patients about dental practices, treatment procedures, risks, benefits and alternatives (3). However, despite the increasing on the Internet, clear information about the reliability, readability and quality of information about dental implants is not available on websites. Therefore, this study aimed to evaluate the quality, reliability and readability of the information and content available about dental implants on the Internet.

Materials and Methods

Since our study consists of publicly available data that does not contain any personal data, as in similar studies, ethics committee approval and informed consent form are not required. This study was conducted in full compliance with the World Medical Association Declaration of Helsinki.

The search terms for this study were determined using Google Trends (14). Google Trends was used to define the most popular terms about dental implants during the past 12 months (July 2021 to July 2022). The top two search terms related to the dental implant (“Dental implant”, and “Tooth implant” were further analyzed. The related terms were searched in two widely used search engines: Google (Google LLC, Mountain View, CA, USA), and Yahoo (Yahoo, Sunnyvale, CA, USA). The search was performed in July 2022 by the virtual private network (VPN) in the USA by a single researcher (IA). VPN extends a private network across

a public network, allowing users to send and receive data over shared or public networks as if their devices were directly connected to the private network. Since this data is not based in the US, the search was performed using a suitable VPN to simulate the virtual environment of US citizens. The top 50 websites for each keyword from each search engine were evaluated.

The links to scientific articles, video links, book links, social media posts, advertisement links, and irrelevant website links were excluded from the study. Only websites in English were analyzed.

Quality Evaluation

Websites were evaluated using the DISCERN tool, Journal of the American Medical Association (JAMA), and Health on the Net code (HONcode) criteria.

The DISCERN instrument is the first standard index to evaluate the quality and reliability of written health information 15. The instrument consists of 16 questions each of which is rated on a five-point scale from 1 (low quality) to 5 (absolute agreement). The first eight questions are designed to evaluate reliability, the next seven questions assess treatment options, and the last question is designed to evaluate the overall quality of the website based on the answers to the first 15 questions (Table 1). The total DISCERN scores are classified as 16–26 very poor, 27–38 poor, 39–50 fair, 51–62 good, and >63 excellent (16).

JAMA benchmark criteria are used to evaluate the reliability and accuracy of information on the Internet. The benchmark consists of four parts, of which the first is Authorship; the identification of the information of the contributors and authors, second is Attribution; the existence of all reference sources cited, third is Disclosure; website ownership, financing, advertising, and conflicts of interest, and the fourth is Currency; the existence and timeliness of the websites (17). The scoring system ranges from 0 to 4. Evaluations are made by giving 1 point to each item that meets the criteria.

HONcode is the most commonly used trust seal signifying quality health information on the Internet. This organization evaluates health-related websites against appropriate and transparent information standards using eight criteria. If the website meets these standards, it is eligible to receive HONcode certification for one year (18).

Table 1. DISCERN instrument questions with the mean (standard deviation [SD]) score of each question

Each question is rated accordingly					Private dental clinics	Health sites	Dentists	Total
1	2	3	4	5	(n=21)	(n=15)	(n=9)	(n=45)
No	Partially		Yes					
Section 1 (questions 1–8): The reliability of the publication								
1. Are the aims clear?					4.02(0.93)	4.02(0.93)	3.97(0.95)	4.02(0.91)
2. Does it achieve its aims?					3.91(0.98)	3.91(0.98)	3.83(1.01)	3.91(0.97)
3. Is it relevant?					4.00(0.91)	4.00(0.91)	3.94(0.94)	4.00(0.90)
4. Is it clear what sources of information were used to compile the publication (other than author/producer)?					2.64(1.66)	2.73(1.68)	2.57(1.67)	2.68(1.67)
5. Is it clear when the information used or reported in the publication was produced?					2.66(1.72)	2.75(1.74)	2.63(1.73)	2.71(1.74)
6. Is it balanced or unbiased?					2.68(1.00)	2.70(1.02)	2.63(1.00)	2.71(1.01)
7. Does it provide details of additional sources of support and information?					2.20(1.44)	2.25(1.43)	2.08(1.38)	2.22(1.42)
8. Does it refer to areas of uncertainty?					2.25(1.10)	2.22(1.10)	2.23(1.11)	2.24(1.09)
Section 2 (questions 9–15): The quality of the information on treatment choices								
9. Does it describe how each treatment works?					3.86(1.15)	3.86(1.15)	3.74(1.22)	3.88(1.15)
10. Does it describe the benefits of each treatment?					3.98(1.15)	3.98(1.15)	3.89(1.20)	4.00(1.14)
11. Does it describe the risks of each treatment?					3.41(1.45)	3.38(1.43)	3.37(1.46)	3.42(1.43)
12. Does it describe what would happen if no treatment is used?					3.16(1.18)	3.11(1.19)	3.11(1.16)	3.13(1.17)
13. Does it describe how treatment choices affect the overall quality of life?					3.36(1.08)	3.30(1.07)	3.26(1.07)	3.33(1.08)
14. Is it clear that there may be more than one possible choice of treatment?					2.98(1.32)	2.93(1.32)	2.97(1.34)	2.95(1.31)
15. Does it provide support for shared decision-making?					3.25(1.01)	3.23(1.00)	3.23(1.09)	3.24(1.00)
Section 3 (question 16): Overall quality rating of the publication								
16. This question is rated accordingly:								
1	2	3	4	5	3.02(1.19)	3.00(1.18)	2.97(1.25)	3.02(1.17)
Low		Moderate		High				
Serious or extensive shortcomings		Potentially important but no serious shortcomings		Minimals shortcomings				

Data are expressed as the mean $\pm$ standard deviation.

Evaluation of Readability Level

The readability levels of the websites were evaluated with Flesch Reading Ease Score (FRES) and Flesch–Kincaid Grade Level (FKGL) scores (19). A 200–500 word summary taken from a text is transferred to an online FRES calculator (www.readabilityformulas.com). The maximum score achievable is 100. Scores between 90 and 100 reflect data that people aged 10–11 can easily understand. Score scales range from 80 to 89 for easy, 70 to 79 for medium, 60 to 69 for standard, 50 to 59 for quite difficult, 30 to 49 for difficult, and 0 to 29 for very confusing. The FKGL scores have been determined using the same application calculator. FKGL represents the years of education required to understand text context and reflects a readability score corresponding to the US education grade level (20).

Statistical Analysis

Statistical analysis program (SPSS Inc., version 20 for Windows; Chicago, IL, USA) was used to analyze all data. All data are expressed as mean $\pm$ standard deviation (SD), median (minimum-maximum) and frequencies (percentages). Intergroup comparisons analysing the effect of authorship were performed by one-way analysis of variance (ANOVA) for normally distributed data, and by the Kruskal–Wallis test for non-normally distributed data. Fischer's exact test was used to compare JAMA benchmarks between the groups.

Table 2. Comparison of DISCERN, FRES, FKGL scores among the groups.

Parameters	Private dental clinics (n=21)	Health sites (n=15)	Dentists (n=9)	<i>p</i>	Post-hoc test		
					1	2	3
DISCERN Scores							
Section 1	20.76±5.74	31.00±7.16	22.44±9.19	0.003 ^{*,¶}	0.000 ^{*,†}	0.073 [†]	0.928 [†]
Section 2	23.14±7.25	26.13±5.38	22.3±7.48	0.312 [‡]	0.196 [§]	0.188 [§]	0.764 [§]
Total Mean (Section1& 2)	43.90±1.10	57.13±11.52	44.78±16.21	0.010 ^{*,‡}	0.004 ^{*,§}	0.027 ^{*,§}	0.865 [§]
Section 3 (Q16)	2.81±1.25	3.40±0.91	2.89±1.36	0.316 [‡]	0.144 [§]	0.307 [§]	0.866 [§]
FRES	54.08±10.38	57.16±11.22	58.28±6.19	0.494 [‡]	0.368 [§]	0.793 [§]	0.299 [§]
FKGL	10.30±2.41	10.01±2.72	9.72±1.60	0.821 [‡]	0.720 [§]	0.774 [§]	0.544 [§]

Data are expressed as the mean $\pm$ standard deviation. **P*<0.05 was considered to be statistically significant.

FRES, Flesch Reading Ease Score; FKGL, Flesch–Kincaid Grade Level.

[†] Mann-Whitney U test; [‡] ANOVA test; [§] LSD test; [¶] Kruskal Wallis test.

1; Comparison of Health Websites and Private Dental Clinics

2; Comparison of Health Websites and Dental Professionals

3; Comparison of Dental Professionals and Private Dental Clinics

Table 3. Comparison of JAMA benchmark scores among the groups

JAMA benchmarks	Private dental clinics (n=21)	Health sites (n=15)	Dentists (n=9)	<i>p</i>
Authorship				
Yes	8	7	6	NS
No	13	8	3	
Attribution				
Yes	10	7	4	NS
No	11	8	5	
Disclosure				
Yes	19	10	8	NS
No	2	5	1	
Currency				
Yes	11	3	5	NS
No	10	12	4	

Abbreviations: NS, not significant; *p*, p-value (Fisher exact test)

Results

After applying exclusion and inclusion criteria, a total of 45 websites were eventually identified (Figure 1). According to the distribution of sources of the websites included in the study, 45 websites were divided into 3 groups; 21 from private dental clinics (47%), 15 from health sites (33%), and 9 from dentists (20%). Among all websites, only seven had the HONcode seal (15.5%).

Regardless of authorship and ownership, 44.3% (n = 20) of the websites had very poor or poor quality, whereas only 13.3% (n = 6) were excellent according to DISCERN criteria (Figure 2).

The overall scores of each instrument are shown in Table 2. The health websites (57.13 ± 11.52) had significantly higher DISCERN scores than those of private dental clinics (43.90 ± 1.10) and dental professionals (44.78 ± 16.21) ($P < 0.05$). Among the scores for each DISCERN item, professional organization websites obtained the highest scores in all questions. Health websites had significantly higher DISCERN (section 1) and total mean DISCERN (section 1 + section 2) scores ($P < 0.05$).

When we examined the pairwise comparisons of DISCERN (section 1), it was found that health websites were statistically significantly higher than private dental clinics ($P < 0.05$). When we analyzed the total DISCERN (section 1+ section 2) pairwise comparisons, it was determined that health websites were statistically significantly higher than private dental clinics and dental professionals ($P < 0.05$).

While the average FRES and FKGL scores of all websites were 55.94 and 10.09, respectively, the websites were found to be at the standard and very difficult readability level according to the FRES score (Figures 3,4). There was no statistically significant difference in FRES and FKGL scores between groups ($P > 0.05$) (Table 2).

Table 3 shows the JAMA benchmark scores between the groups. There was no statistically significant difference between various Authorships, Attribution, Disclosure, and Currency categories between all groups ($P < 0.05$). It was determined that the internet sites evaluated according to JAMA criteria had the least up-to-dateness criteria (n=19; 42%) and the highest number of patent rights criteria (n=37; 82%) (Figure 5).

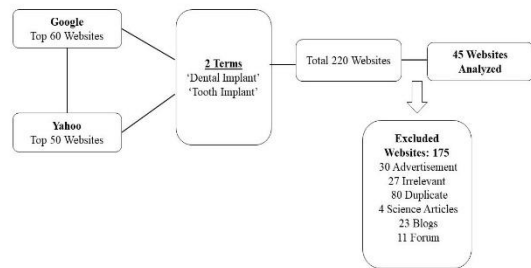


Figure 1. Flowchart diagram of Internet search

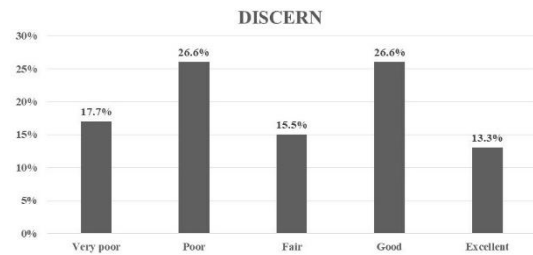


Figure 2: Distribution of DISCERN scores of analyzed websites

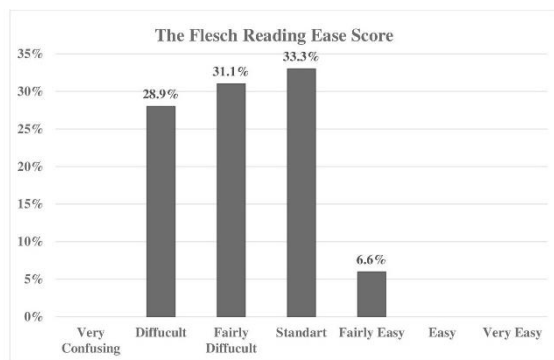


Figure 3: Flesch Reading Ease Score (FRES) of analyzed websites

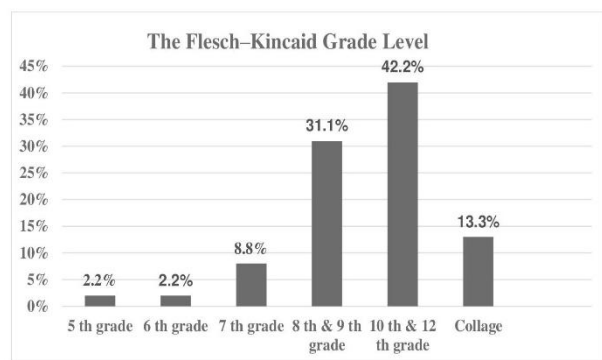


Figure 4: Flesch-Kincaid Grade Level (FKGL) of analyzed websites

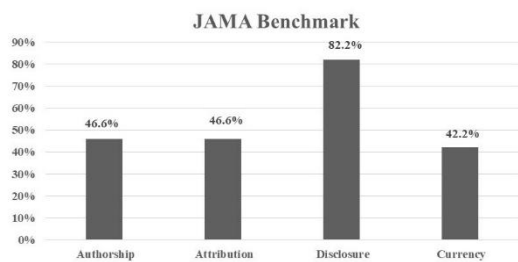


Figure 5: JAMA benchmark scores of analyzed websites

Discussion

Missing teeth can affect the quality of life of the individual and cause functional deterioration related to chewing and aesthetics (21). Nowadays, the treatment of missing teeth with implant-supported restorations is becoming a widely accepted treatment approach (22). The fact that a large part of the world's population now has internet access and with the developing

technology, the Internet is becoming the primary source of information that patients commonly use to learn more about health (23). However, despite the increasing data on the Internet, no study has been found that researches the accuracy, reliability, readability and general quality of the information on the websites that provide information about dental implants. This is the first study to evaluate the reliability, quality, and readability of websites describing dental implants.

The Internet is an easy-to-access information platform that people use to access information. It has been observed that search engines such as Yahoo and Bing are used together with Google in studies conducted to evaluate the quality of Internet information (24,26). As of 2022, it has been determined that the most used search engine in the United States and the world is Google in the 1st place and Yahoo in the 9th place (Similarweb, 2022). Based on these data, we used Google and Yahoo search engines in our study. Two search terms were defined with the help of Google Trends, which shows the most used keywords in online searches related to dental implants. For each keyword, Google (60) and Yahoo (50) websites were evaluated for each search engine. Our search strategy including exclusion criteria, was applied similarly to previous studies (14,16).

Tools such as DISCERN and JAMA, which measure the reliability and quality of internet information, have been developed to distinguish between sites that offer quality and reliable content and sites that provide low-quality and false information (28,30). The DISCERN questionnaire is one of the most commonly used tools whose validity and reliability have been accepted nowadays (15).

Health websites performed best in DISCERN scores. While there was a difference in quality between DISCERN scores and resource groups, it was seen that health sites received significantly higher scores (57.13) than private dental clinics and dentists, especially according to the results of the total DISCERN questions. Similarly, Meade and Dreyer reported in a recent study that health sites get the highest DISCERN scores (16). This may be due to the fact that these websites are probably less biased and receive professional support.

Displaying the HONcode seal on a medical website means it provides clear, accessible and reliable information. However, it does not give clear information about the accuracy of

the information (24). In our study, only 7 of the 45 websites showed the HONcode seal. Likewise, in their study of Riordain and Hodgson evaluating the content and quality of website information on the treatment of oral ulcers, they found that only 4 of 54 websites contained the HONcode seal 31. A lack of widespread display of the HONcode seal may be due to the license renewal fee for the HONcode certificate since 2014 and the lack of awareness of the health-related website designers about the application process (24).

Only ten websites met all four JAMA criteria. The highest-rated JAMA criterion is disclosure (82.2%), while the lowest JAMA criterion is currency (42.2%). Similarly, in a recent study by Haque et al. on rheumatic disease, it was stated that the patent right criterion was high with 88% points. On the other hand, McMorrow and Millett, in their study on adult orthodontics, found that the patent right criterion got the lowest score with 31% points 24. The fact that the JAMA criteria got different scores in the studies may be due to the variability of the quality of the websites that share information on various subjects.

Text readability is an important criterion when assessing the quality of health information. In our study, the mean FRES score of all websites was found to be 55.94. The results of this study show that the readability of the content is 'fairly difficult'. The online information about the dental implant is beyond the recommended reading level for understanding. Also, the average FKGL score of all websites was 10.09. While our study showed that approximately 10 years of USA school education is required to properly understand the information provided, most patient-focused studies have emphasized the need for a grade 6 reading level (32,33).

The Internet is an important means of obtaining information that can strengthen communication between patients and physicians 34. A well-informed patient is more likely to comply with treatment (35). Chestnutt and Reynolds (2006) found that healthcare professionals are unsure of where to direct people for high-quality and reliable information. Fox and Duggan (2013) also found that people use a health-specific websites such as WebMD, as well as search engines such as Google, to obtain information. These data show that health professionals should be made aware of directing people to quality websites, and the number of health-specific websites should also be increased (36).

This study has several limitations. The limitations of this study are that the results are only valid for a limited population due to the evaluation of websites in English-only websites in the USA and that websites are evaluated by one researcher at a time. With the changes in the ranking and content of websites over time, the evaluation of quality and readability tools may also differ. As in other studies evaluating the reliability of the information on the Internet, this study also deals with current conditions at a time. But since the nature of the internet is dynamic, the level of data and information is constantly changing.

Conclusions

Our study shows that internet-based information in English about the dental implant is of poor quality and difficult to read. Dental professionals can prevent this negative situation by directing patients to websites shared by experts in the field, consisting of clear, short and clear words and sentences that comply with international quality standards. We also believe that it would be beneficial for healthcare professionals to create websites that contain clear, reliable and high-quality information about dental implants that are both independent of commercial interests and easy to understand by a patient.

Author Contributions

IA and FOD were responsible for study conception, design, drafted and critically revised the manuscript. IA and SKB were responsible for data management. The authors gave final approval and agreed to be accountable for all aspect of the work.

Data Availability Statement

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

Conflicts Of Interest

The authors report no conflicts of interest related to this study.

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References

1. Diaz JA, Griffith RA, Ng JJ, Reinert SE, Friedmann PD, Moulton AW. Patients' Use of the Internet for Medical Information. *J Gen Intern Med.* 2002;17(3):180. doi:10.1046/J.1525-1497.2002.10603.X
2. Couper MP, Singer E, Levin CA, Fowler Jr FJ, Fagerlin A, Zikmund-Fisher BJ. Use of the Internet and ratings of information sources for medical decisions: results from the DECISIONS survey. *Med Decis Mak.* 2010;30(5_suppl):106-114.
3. Rehman I, Elmahgoub F, Goodall C. Evaluation of the information provided by UK dental practice websites regarding complications of dental implants. *Br Dent J* 2021 23012. 2021;230(12):831-834. doi:10.1038/s41415-021-3080-2
4. Cline RJW, Haynes KM. Consumer health information seeking on the Internet: the state of the art. *Health Educ Res.* 2001;16(6):671-692.
5. Lu X, Zhang R, Wu W, Shang X, Liu M. Relationship Between Internet Health Information and Patient Compliance Based on Trust: Empirical Study. *J Med Internet Res.* 2018;20(8). doi:10.2196/JMIR.9364
6. Patel U, Cobourne MT. Orthodontic extractions and the Internet: Quality of online information available to the public. *Am J Orthod Dentofac Orthop.* 2011;139(2):e103-e109. doi:10.1016/J.AJODO.2010.07.019
7. Beaunoyer E, Arsenault M, Lomanowska AM, Guitton MJ. Understanding online health information: Evaluation, tools, and strategies. *Patient Educ Couns.* 2017;100(2):183-189. doi:10.1016/J.PEC.2016.08.028
8. Özdemir AK, Özdemir HD, Polat NT, Turgut M, Sezer H. The effect of personality type on denture satisfaction. *Int J Prosthodont.* 2006;19(4).
9. Bernabe E, Marcenes W, Hernandez CR, et al. Global, regional, and national levels and trends in burden of oral conditions from 1990 to 2017: a systematic analysis for the global burden of disease 2017 study. *J Dent Res.* 2020;99(4):362-373.
10. Steveling H, Roos J, Rasmusson L. Maxillary implants loaded at 3 months after insertion: results with Astra Tech implants after up to 5 years. *Clin Implant Dent Relat Res.* 2001;3(3):120-124.
11. Rasmusson L, Roos J, Bystedt H. A 10-Year Follow-Up Study of Titanium Dioxide-Blasted Implants. *Clin Implant Dent Relat Res.* 2005;7(1):36-42.

12. Elani HW, Starr JR, Da Silva JD, Gallucci GO. Trends in dental implant use in the US, 1999–2016, and projections to 2026. *J Dent Res.* 2018;97(13):1424-1430.
13. Chestnutt IG, Reynolds K. Perceptions of how the Internet has impacted on dentistry. *Br Dent J.* 2006;200(3):161-165.
14. Arun M, Usman Q, Johal A. Orthodontic treatment modalities: a qualitative assessment of Internet information. *J Orthod.* 2017;44(2):82-89.
15. Charnock D, Shepperd S, Needham G, Gann R. DISCERN: an instrument for judging the quality of written consumer health information on treatment choices. *J Epidemiol Community Heal.* 1999;53(2):105-111.
16. Meade MJ, Dreyer CW. Web-based information on orthodontic clear aligners: a qualitative and readability assessment. *Aust Dent J.* 2020;65(3):225-232.
17. Silberg WM, Lundberg GD, Musacchio RA. Assessing, controlling, and assuring the quality of medical information on the Internet: Caveant lector et viewor—Let the reader and viewer beware. *Jama.* 1997;277(15):1244-1245.
18. Corcelles R, Daigle CR, Talamas HR, Brethauer SA, Schauer PR. Assessment of the quality of Internet information on sleeve gastrectomy. *Surg Obes Relat Dis.* 2015;11(3):539-544.
19. Flesch R. A new readability yardstick. *J Appl Psychol.* 1948;32(3):221.
20. Kincaid JP, Fishburne Jr RP, Rogers RL, Chissom BS. Derivation of New Readability Formulas (Automated Readability Index, Fog Count and Flesch Reading Ease Formula) for Navy Enlisted Personnel. Naval Technical Training Command Millington TN Research Branch; 1975.
21. Gerritsen AE, Allen PF, Witter DJ, Bronkhorst EM, Creugers NHJ. Tooth loss and oral health-related quality of life: a systematic review and meta-analysis. *Health Qual Life Outcomes.* 2010;8:126. doi:10.1186/1477-7525-8-126
22. Derks J, Håkansson J, Wennström JL, Tomasi C, Larsson M, Berglundh T. Effectiveness of implant therapy analyzed in a Swedish population: early and late implant loss. *J Dent Res.* 2015;94(3_suppl):44S-51S.
23. Hesse BW, Nelson DE, Kreps GL, et al. Trust and Sources of Health Information: The Impact of the Internet and Its Implications for Health Care Providers: Findings From

- the First Health Information National Trends Survey. *Arch Intern Med.* 2005;165(22):2618-2624. doi:10.1001/ARCHINTE.165.22.2618
24. McMorro SM, Millett DT. Adult orthodontics: a quality assessment of Internet information. *J Orthod.* 2016;43(3):186-192.
25. Banasiak NC, Meadows-Oliver M. Evaluating asthma websites using the Brief DISCERN instrument. *J Asthma Allergy.* 2017;10:191.
26. Olkun HK, Demirkaya AA, Aras B. The quality of Internet information on lingual orthodontics in the English language, with DISCERN and JAMA. *J Orthod.* 2019;46(1):20-26.
27. Web S. En Çok Ziyaret Edilen Web Siteleri: En Çok Ziyaret Edilen Web Siteleri Temmuz 2022 Sıralaması | Similarweb. Published 2022. Accessed August 27, 2022. <https://www.similarweb.com/tr/top-websites/>
28. Aldairy T, Laverick S, McIntyre GT. Orthognathic surgery: is patient information on the Internet valid? *Eur J Orthod.* 2012;34(4):466-469.
29. Lorenzo-Pouso A-I, Pérez-Sayáns M, Kujan O, et al. Patient-centered web-based information on oral lichen planus: Quality and readability. *Med Oral Patol Oral Cir Bucal.* 2019;24(4):e461.
30. Charnock D, Shepperd S. Learning to DISCERN online: applying an appraisal tool to health websites in a workshop setting. *Health Educ Res.* 2004;19(4):440-446.
31. Riordain RN, Hodgson T. Content and quality of website information on the treatment of oral ulcers. *Br Dent J.* 2014;217(7):E15-E15.
32. Jayaratne YSN, Anderson NK, Zwahlen RA. Readability of websites containing information on dental implants. *Clin Oral Implants Res.* 2014;25(12):1319-1324.
33. McGoldrick DM, Kielty P, Cotter C. Quality of information about maxillofacial trauma on the Internet. *Br J oral Maxillofac Surg.* 2017;55(2):141-144.
34. McMullan M. Patients using the Internet to obtain health information: how this affects the patient–health professional relationship. *Patient Educ Couns.* 2006;63(1-2):24-28.
35. Mullen PD. Compliance becomes concordance. *BMJ.* 1997;314(7082):691-692. doi:10.1136/bmj.314.7082.691
36. Fox S, Duggan M, Purcell K. Family Caregivers Are Wired for Health. Pew Research Center’s Internet & American Life Project Washington, DC; 2013.