

Dental Websites as New Media Tools for Patients in Dental Health Tourism

Busra Kopmaz¹, Nur Sisman Kitapci², Okan Cem Kitapci², Seyma Birke Bulu³, Pinar Kilic Aksu⁴, Leyla Koksali⁵, Gonca Mumcu⁶

¹Departments of Health Management, University of Health Sciences, Istanbul, Turkey

²Departments of Health Management, Marmara University, Istanbul, Turkey

³MSc Student, Institute of Health Sciences, Marmara University, Istanbul, Turkey

⁴Departments of Health Management, Yeditepe University, Istanbul, Turkey

⁵Emeritus, Departments of Health Management, Marmara University, Istanbul, Turkey

⁶Departments of Health Management, Marmara University, Istanbul, Turkey

Corresponding author: Busra Kopmaz MD, Department of Health Management, University of Health Sciences, Istanbul, Turkey. ORCID ID: <http://www.orcid.org/0000-0002-6143-6954>, e-mail: bkopmaz@gmail.com

doi: 10.5455/aim.2019.27.128-132

ACTA INFORM MED. 2019 JUN 27(2): 128-132

Received: Apr 15, 2019 • Accepted: May 30, 2019

© 2019 Busra Kopmaz, Gonca Mumcu, Nur Şişman Kitapçı

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Introduction: Nowadays, potential patients surf the internet to check the websites of health care organizations to select the most suitable health organization for their needs within the perspective of health tourism. To this effect, dental health tourism as a subset of health tourism is considered to be a developing sector. **Aim:** The aim of the study was to assess whether websites are effectively used as media tools by dental health care organizations, which serve as currently active as well as promising components of health tourism in Turkey. **Methods:** In this cross-sectional study, 555 websites of dental health care organizations were examined. Web pages were evaluated by using E-Information Quality Scale of the Health Centre. A low score indicates well-designed websites. **Results:** Scores related to “contact information” and “website layout” were lower in the private ones (n:146) than the public institutions (n:409)(p=0.000, p=0.011). It was observed that 80.8% (n:122) of the websites with foreign language options (n:151), were private institutions; whereas, public institutions only constitute 19.2% (n:29) of the total. All sub-group scores in the scale were lower in the organizations offering foreign language alternatives in contrast to the ones without foreign language options (p<0.05). **Conclusion:** In private dental health care organizations, “contact information” and “website layout” of websites were observed to be the most prominent features in the conduct of public relations activities. Websites with foreign language alternatives were well-designed due to the fact that language options were considered to be an incentive for the health tourists.

Keywords: Dental health tourism, websites, healthcare institutions, health tourism.

1. INTRODUCTION

Healthcare is one of the most important motives for traveling. ‘Health tourism’, refers to a growing market for patients searching treatment options (1, 2). This type of tourism has emerged from increased medical needs for chronic diseases, difficulties in accessing the required healthcare in the vicinity, high cost of healthcare in the home country and alternative treatment options abroad (3). Dental health tourism, a subset of health tourism, is identified as the search for options in dental care by many patient-tourists worldwide (4, 5). The main reasons for dental patient mobility can be classified in four main categories: Availability, affordability, familiarity and perceived quality of care (6, 7). Dental health tourism, a recently developing sector, is also impacted by other factors besides the alternative costs of the treat-

ment, namely, delays in access to the relevant care locally, the reports of high patient satisfaction with the treatments provided abroad and the competitive fares of air travel (4, 8-10).

Oral health problems limit the oral functions and lead to communication difficulties by hampering the general well-being of the patients (11). Dental care standards relate to having qualified and competent dental professionals as required by licensing and accreditation, regulations of dental clinics, quality of dental care education, training of assistants, selection of equipment and supplies, and treating patients based on specific needs or personalized care (5). Therefore, millions of affluent patient-tourists are traveling across the borders for more timely and affordable dental care services (4, 5, 12).

In addition to all, the role of networks and on line information, critical to understanding the choices of treatment options, providers and destinations are important in this activity (7).

Patients select the most convenient institution for their treatments via several means, the most common of which is the internet; therefore, it is essential that dental healthcare institutions use websites effectively. The information and communication technologies foster health tourism. Patients can reach information about healthcare organizations in the remote regions of the world easily and conveniently by using network channels which play a crucial role in the competition at the international and regional levels for healthcare managers (13-15).

Although Turkey is an outstanding destination for health tourism (16), there is limited published information available regarding the properties of web sites of dental care organizations through the perspective of health tourism. Therefore, this study aimed to assess whether websites are effectively used for health tourism by dental health care organizations in Turkey.

2. AIM

The aim of the study was to assess whether websites are effectively used as media tools by dental health care organizations, which serve as currently active as well as promising components of health tourism in Turkey.

3. METHODS

In this cross-sectional study, 555 websites of dental health care organizations located in seven big cities, İstanbul, Ankara, Samsun, Antalya, İzmir, Gaziantep and Malatya were examined (17). Surveys were conducted according to the lists of the Ministry of Health. Dental healthcare institutions were categorized as “private clinic”, “dental clinic in hospital”, “oral and dental healthcare center”, “faculty of dentistry” and “dental hospital”. All websites accessed during the 6-month study period were included in the study. The main criterion for the inclusion was that, in each geographic region of the country, the city with the highest number of dentists (n=7) was selected to represent the country's profile. All the dental care organizations in the selected seven cities were included in the study. Due to technical problems resulting in denied access to their web sites, a few dental clinics in the selected cities were excluded from the study.

Data were collected by E-Information Quality Scale of the Health Center, developed by Llinas et al (18). Each item in the scale was coded as “Yes” (1 point) or “No” (2 points). Low scores indicate well-designed websites (18). Prior to this study, two authors (BK, GM) evaluated 5 % of the websites. Since the scores of the websites were found to be similar ($p > 0.05$), one of the authors (BK) analyzed all websites during the study.

Eleven subgroups of the scale were calculated, as a result of which a low score indicates well-designed websites. The subgroups included in the research were examined according to *the contact information of the institution*, *website specifications* (website map, website search engine, accessibility for disabled people, links to other websites), *site layout* (letter or font type, size, colour and contrast), *updates* (date of page creation, last page update, etc.), *access path* (organization location, how to get to the hospital, etc.), *general information* (organization's chart, name and position of the staff, telephone and/or fax for each department, access to webpage in foreign languages), *patient services* (information related to patient rights and obligations, EFQM reports, quality commitment, suggestions forms), *patient information* (hospitalization guidelines: information and regulations to be followed during admission, during the hospitalization, at the time of discharge, to be followed by visitors, to get examination appointments via internet), *staff training and research facilities* (national or international medical news, graduate, postgraduate courses, etc., provided by the hospital, scientific studies supported by the organization), *public relations and technical specifications* (organization news; courses, workshops, conferences and announcements)

The study was approved by the Ethics Committee of Health Sciences Institute of Marmara University (22.05.2015-10)

Statistical analysis

The data were analyzed by SPSS 25.0 package program (Illinois, USA). ANOVA, Unpaired T- test and Pearson correlation tests were used in the analysis.

4. RESULTS

In the examined web pages, 73.7% of the group (n=409) were private institutions and the rest were

| | All Organisations | | Organisations with Foreign Language Alternatives | | |
|----------------------|-----------------------------------|-----|--|-----|------|
| | n | % | n | % | |
| Type | Private Organisations | 409 | 73.7 | 122 | 80.8 |
| | Public Organisations | 146 | 26.3 | 29 | 19.2 |
| | Total | 555 | 100 | 151 | 100 |
| Institution Category | Private Dental Clinic | 312 | 56.2 | 74 | 49.0 |
| | Private Dental Clinic in Hospital | 194 | 34.9 | 61 | 40.4 |
| | Oral and Dental Healthcare Center | 22 | 3.9 | 3 | 1.9 |
| | Faculty of Dentistry | 20 | 3.6 | 9 | 5.9 |
| | Dental Hospital | 7 | 1.3 | 4 | 2.6 |
| | Total | 555 | 100 | 151 | 100 |

Table 1. The Profile of Organisations and Foreign Language Alternatives in the Study Group

| | Public Organisations | | Private Organisations | | p** | Foreign Language Alternatives (+) | | Foreign Language Alternatives (-) | | p** |
|--|----------------------|------|-----------------------|------|-------|-----------------------------------|------|-----------------------------------|------|-------|
| | Mean | SD | Mean | SD | | Mean | SD | Mean | SD | |
| Contact information (5-10 points) | 5.91 | 0.74 | 5.35 | 0.66 | 0.000 | 5.39 | 0.57 | 5.54 | 0.77 | 0.012 |
| Website Specifications (4-8 points) | 6.53 | 0.83 | 7.40 | 0.79 | 0.000 | 6.89 | 0.98 | 7.28 | 0.81 | 0.000 |
| Website Layout (5-10 points) | 6.31 | 1.28 | 6.01 | 1.00 | 0.011 | 5.80 | 0.71 | 6.19 | 1.17 | 0.000 |
| Updates (3-6 points) | 4.72 | 0.72 | 5.27 | 0.64 | 0.000 | 8.17 | 1.32 | 8.67 | 1.29 | 0.000 |
| Access path (6-12 points) | 9.97 | 0.88 | 10.41 | 0.88 | 0.000 | 10.06 | 0.90 | 10.39 | 0.88 | 0.000 |
| General Information (9-18 points) | 15.21 | 1.19 | 15.81 | 0.96 | 0.000 | 14.70 | 0.93 | 16.00 | 0.86 | 0.000 |
| Patient Services (11-22 points) | 17.34 | 2.00 | 19.42 | 1.73 | 0.000 | 18.45 | 1.95 | 19.02 | 2.02 | 0.003 |
| Patient Information (7-14 points) | 11.29 | 1.47 | 13.05 | 1.04 | 0.000 | 12.22 | 1.47 | 12.72 | 1.34 | 0.000 |
| Staff training and Research Facilities (7-14 points) | 12.68 | 1.39 | 13.75 | 0.60 | 0.000 | 13.31 | 1.17 | 13.52 | 0.91 | 0.024 |
| Public Relations Activities (5-10 points) | 7.38 | 1.08 | 8.83 | 1.52 | 0.000 | 7.89 | 1.65 | 8.65 | 1.46 | 0.000 |
| Technical Specifications (4-8 points) | 4.24 | 0.47 | 4.91 | 0.53 | 0.000 | 4.64 | 0.53 | 4.76 | 0.61 | 0.027 |

Table 2. Subgroup Scores* of Websites According to Organisation Types and Foreign Language Alternatives. *Low score indicated well designed websites. **Unpaired T Test was used in the analyses.

public ones (n=146, 26.3%). More than half of the studied institutions were located in Istanbul (57.3%). Institutions were categorized as follows: private clinics (56.22%) which had the highest number of websites. Dental clinics in hospitals (34.95%) ranked the second; whereas, the lowest numbers of websites were detected among dental hospitals (1.26%), faculties of dentistry (3.60%) and oral and dental healthcare centers (3.96%) (Table 1).

Scores of "contact information" (5.91±0.74) and "website layout" (6.31±1.28) in public institutions rated higher than those of private ones, respectively (p=0.000, p=0.011). However, the scores of other subgroups of the following criteria such as, *website specifications, updates, in access path, technical specifications general information, patient services, patient information, public relations, staff training, and research facilities* were observed to be higher in private institutions than in the public ones (p<0.05) (Table 2).

Among the websites with foreign language options, 80.8% were private institutions (n: 122); whereas, public institutions constituted only 19.2% (n: 29). Their distribution was as follows: private dental clinics (49.0%) and dental divisions in hospitals (40.4%), faculty of dentistry (5.9%), dental hospitals (2.6%), oral and dental healthcare centers (1.9).

Furthermore, sub-group scale scores of websites rated lower in organizations with foreign language alternatives compared to the ones without foreign language options (p<0.05)(Table 2).

When websites with foreign language options were examined according to cities, different rates were observed according to the location and population of the cities. The highest rates were seen in Istanbul (54.3%) and Antalya (29.8%); whereas, in other cities the rates were less than 10%.

5. DISCUSSION

Health tourism is a particularly concentrated area in the correlation between the internet and increased number of patient-tourists (19). It is also heavily reliant on web-based information nowadays (20). Websites have become the most significant means of providing medical information for the patients throughout the globe in reaching the dental service providers. Since health tourists use websites to select target countries and institutions, well-designed websites should contain sufficient and qualified information and increase the preference for addressing the institutions. Language options, proper graphics, structural stability, loading speed, updating and the content of the website should be con-

sidered while designing a web page (19).

Designing proper health tourism websites provides a good opportunity to attract health tourists to the host country. Marketing features via well-designed websites significantly contribute to the effective delivery of messages, quality of products and services reflecting effectively the brand images in hospitality and tourism, including health tourism (21, 22). Websites in a virtual space act as a gateway where patients can conveniently select their destination and/or touristic purposes with high quality, low price and proper services (19, 23). In the light of the fact that well-designed-informative web pages are crucial to attract potential patients for dental tourism, the majority of accessed websites, which were studied comprised those of private organizations, mainly dental clinics and dental clinics in hospitals.

Foreign language alternatives make websites more qualified and informative for health patient-tourists. If the website is well designed and user-friendly, the user will spend more time on this website instead of its alternatives (24). Keeping this fact in mind, the most critical result obtained from the study was that websites with foreign language options were better-designed with better technical characteristics than the others. The global reality requires that all healthcare organizations in Turkey develop their websites to take part in the international marketing of dental care through well-designed and easily accessed websites.

As health tourists are not familiar with the health systems and options available to them abroad and rely on the internet for information to facilitate decision making, reliable information availability is important. In becoming a global industry, dental tourism is being driven by the increasing costs of dentistry, long waiting-lists and dental work force issues at home, in contrast to the increasing availability of competent care abroad, competitive air travel fares and easy internet access, which connect travelers with dental providers abroad (24). Therefore, health managers should pay attention to the completeness of dental care service programs, information about dental clinics and the services they provide (12). Turkey is no exception to this rule.

In our study, it was observed that the websites of the public sector were designed much better and more conveniently than the websites of the private sector. This is considered to be related to the preparation of public websites according to a standard format.

Since most internet users spend only a few seconds viewing a site on average, the first impression of a site determines whether users will decide to continue interacting with it or browse another (23, 25). In health tourism, the communication between patients and health professionals is as important an issue as the quality of the treatment itself (6). Institutions, taking into consideration the trend for easy

access to information, design web pages containing texts and graphics to provide information about physicians, treatment options, special care services, organizational structure and communication channels of healthcare organizations to influence the patients' decision-making process in choosing a hospital or a health care center (19).

As our study suggests, İstanbul and Antalya had the highest number of institutions with websites offering foreign language alternatives because of their location, historical and cultural lure and transportation facilities enabling easy access. Language options can be an incentive to the health tourists (6). It is one of the reasons for preferring the health institutions' website which use the patient's own language and to have the personnel communicate with the patients in their mother tongue for verbal communication.

A shortcoming of the websites noted during this study was that the disabled people had not been considered while designing any of the websites examined. The audible information or visual information while browsing dental care providers' websites with good reviews from previous patients, may help disabled potential patients to decide on and plan their trip to a destination country or dental care center (26). This feature may play an important role in influencing patients to decide on a dental service provider, after which the internet becomes an important source of detailed information for customers in reaching providers for dental care services overseas (5). Especially, healthcare organizations, should take into consideration all of the target groups. Therefore, collaborative design and determining requirements for websites could be important for efficient websites (27, 28).

Private clinics constitute nearly half of the study group in categorizing the institutions. This pattern was in accordance with the structure of dental health services in the country (17). However, more than half of these institutions are located in İstanbul, the most crowded city of Turkey, which suggests that İstanbul is a popular health care and tourist-patient destination (29). Therefore, our study focused mainly on the institutions in İstanbul.

Through the health manager's perspective, communication in health tourism industry must be available and updated 24/7 a week. This suggests that website information update must be given priority and be performed regularly by health organizations. Taking into consideration the crucial role of websites in dental health care organizations, this study provides vital information for health tourism facilities.

On the other hand, the study proves to have some limitations. Firstly, the health patients' assessments related to the websites were not contained in the results. Secondly, some websites of organizations could not be accessed due to technical failures. Finally, this study only includes data about a single

country, namely Turkey. Future studies focusing on this issue may help to understand the patients' perspective more thoroughly.

6. CONCLUSION

The most prominent characteristics observed during the study were "contact information" and "website layout" in the websites of private organizations. The private organizations which were examined had well-designed web pages with foreign language alternatives. Language options can be an incentive to the health tourists since the websites are efficient communication tools used in the conduct of public relations practices of the health institutions against their alternatives.

- **Authors contributions:** Each author gave substantial contributions to the conception or design of the work in acquisition, analysis, or interpretation of data for the work. Each author had a part in article preparing for drafting or revising it critically for important intellectual content, and each author gave final approval of the version to be published and agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.
- **Conflict of interest:** There are no conflicts of interest.
- **Financial support and sponsorship:** Nil.

REFERENCES

1. Adams K, Snyder J, Crooks VA, Johnston R. Developing an informational tool for ethical engagement in medical tourism. *Philosophy, Ethics, and Humanities in Medicine*. 2017; 12(1): 4.
2. Mrčela NT, Borovac JA, Vrdoljak D, Grazio S, Luetić AT, Tomek-Roksandić S. When elders choose: Which factors could influence the decision-making among elderly in the selection of health tourism services? *Medical hypotheses*. 2015; 85(6): 898-904.
3. Pocock NS, Phua KH. Medical tourism and policy implications for health systems: a conceptual framework from a comparative study of Thailand, Singapore and Malaysia. *Globalization and health*. 2011; 7(1): 12.
4. Dhama K, Patthi B, Singla A, Gupta R, Niraj LK, Ali I, et al. Global tourist guide to oral care - A systematic review. *Journal of clinical and diagnostic research: JCDR*. 2016; 10(9): ZE01.
5. Jaapar M, Musa G, Moghavvemi S, Saub R. Dental tourism: Examining tourist profiles, motivation and satisfaction. 2017; 538-552.
6. Gheorghe R. Dental tourism from Switzerland to Germany. *Swiss dental journal*. 2017; 127(7-8): 618-633.
7. Hanefeld J, Lunt N, Smith R, Horsfall D. Why do medical tourists travel to where they do? The role of networks in determining medical travel. *Social Science & Medicine*. 2015; 124: 356-363.
8. Riordain RN, McCreary C. Dental patients' use of the Internet. *British dental journal*. 2009; 207(12): 583.
9. Aydin G, Karamehmet B. Factors affecting health tourism and international health-care facility choice. *International Journal of Pharmaceutical and Healthcare Marketing*. 2017; 11(1): 16-36.
10. Ghatala MH, Educational AH, Lakshmi B. A Case for Medical Tourism in India. 2016; 1-11.
11. Moynihan P, Petersen PE. Diet, nutrition and the prevention of dental diseases. *Public health nutrition*. 2004; 7(1a): 201-226.
12. Kesar O, Mikulić J, editors. *Medical Tourist Satisfaction and Dissatisfaction with Dental Care Services: an Exploratory Case Study*. 4th International Scientific Conference ToSEE-Tourism in Southern and Eastern Europe. 2017.
13. Mumcu G, et al. The Healthcare Quality and Hospital Information Management System: A Sample From Turkey. 2014, 31-37.
14. Kumar S, Breuing R, Chahal R. Globalization of health care delivery in the United States through medical tourism. *Journal of health communication*. 2012; 17(2): 177-198.
15. Lee H, Wright KB, O'Connor M, Wombacher K. Framing medical tourism: an analysis of persuasive appeals, risks and benefits, and new media features of medical tourism broker websites. *Health communication*. 2014; 29(7): 637-645.
16. Asiaone (2015, January 28). Turkey govt to grow foreign patient numbers. Retrieved from <https://www.asiaone.com/health/turkey-govt-grow-foreign-patient-numbers> Accessed date: 25 February 2019.
17. Akar Ç. Türkiye'de ağız-diş sağlığı hizmetlerinin strateji değerlendirmesi. Ankara: Türk Dişhekimleri Birliği Yayınları, Araştırma Dizisi. 2014; 9.
18. Llinás G, Rodríguez-Iñesta D, Mira J, Lorenzo S, Aibar C. A comparison of websites from Spanish, American and British hospitals. *Methods of Information in Medicine*. 2008; 47(02): 124-130.
19. Samadbeik M, Asadi H, Mohseni M, Takbiri A, Moosavi A, Garavand A. Designing a medical tourism website: a qualitative study. *Iranian journal of public health*. 2017; 46(2): 249.
20. Sanders R, Linn AJ. A Mixed Method Study Investigating the Impact of Talking about Patients' Internet Use on Patient-Reported Outcomes. *Journal of Health Communication*. 2018: 1-9.
21. Cormany D, Baloglu S. Medical travel facilitator websites: An exploratory study of web page contents and services offered to the prospective medical tourist. *Tourism management*. 2011; 32(4): 709-716.
22. Mason A, Wright KB. Framing medical tourism: an examination of appeal, risk, convalescence, accreditation, and interactivity in medical tourism web sites. *Journal of Health Communication*. 2011; 16(2): 163-177.
23. Holliday R, Bell D, Jones M, Hardy K, Hunter E, Probyn E, et al. Beautiful face, beautiful place: relational geographies and gender in cosmetic surgery tourism websites. *Gender, Place & Culture*. 2015; 22(1): 90-106.
24. Leggat P, Kedjarune U. Dental health, 'dental tourism' and travellers. *Travel medicine and infectious disease*. 2009; 7(3): 123-124.
25. Moghavvemi S, Ormond M, Musa G, Isa CRM, Thirumoorthi T, Mustapha MZB, et al. Connecting with prospective medical tourists online: A cross-sectional analysis of private hospital websites promoting medical tourism in India, Malaysia and Thailand. *Tourism Management*. 2017; 58: 154-163.
26. Turner L. Cross-border dental care: 'dental tourism' and patient mobility. *British dental journal*. 2008; 204(10): 553.
27. Zare Z, Jebraeily M. Patients' Perceptions of Applying Information and Communication Technology Tools in Self-care and Factors Affecting It. *Acta Inform Med*. 2018; 26(2): 102.
28. Nguyen MH, Bol N, van Weert JC, Loos EF, Tytgat KM, Geijsen D, et al. Optimising eHealth tools for older patients: Collaborative redesign of a hospital website. *European journal of cancer care*. 2019: e12882.
29. Enstitüsü HÜNE. 2013 Türkiye Nüfus ve Sağlık Araştırması. Hacettepe Üniversitesi Nüfus Etütleri Enstitüsü, TC Kalkınma Bakanlığı ve TÜBİTAK, Ankara, Türkiye. 2014; 1.