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Rodrigues, H., Brochado, A., Troilo, M. & Moshin, A. (2017). Mirror, mirror on the wall, who's the fairest of the mall? A critical content analysis on medical tourism. *Tourism Management Perspectives*. 24, 16-25

## Mirror, mirror on the wall, who's the fairest of them all? A critical content analysis on medical tourism

### Abstract

Medical tourism continues to grow as the Internet helps individuals make appropriate choices and informed decisions. This study investigated two areas of medical tourism: cosmetic and dental procedures. The postprocedural experiences of 603 respondents who were medical tourists originating from different countries between 2008 and 2016 were analyzed using Leximancer software. The findings indicate commonalities in the identification of significant attributes of medical services received by respondents and their evaluations of cost, treatment effectiveness, and the time spent collecting healthcare information, as well as the recommendations they plan to make to friends and family. Further analyses showed that people who have undergone cosmetic surgery and dentistry use the same narratives to represent their medical experiences, although gender is an influential factor in how individuals evaluate different attributes of treatments.

*Keywords:* Medical tourism Cosmetic procedure Post-experience Content analysis Leximancer

## 1. Introduction

Medical tourism is a growing trend in which individuals, travel overseas for medical treatment and healthcare benefits at a much lower cost compared to the travelers' own country (Lunt et al., 2011). This trend represents a lucrative economic opportunity for destinations focusing on medical tourism (Hopkins, Labonte, & Packer, 2010).

In the past decades, a large body of literature has emerged in the field of medical tourism (Seow, Choong, Moorthy, & Chan, 2017). Even though it has been a hot topic for some time, many research opportunities are still available. Most of the more recent literature in this field tackles fundamental questions such as the definition of medical tourism and the development of the medical tourism industry in destination countries (Crooks, Kingsbury, Snyder, & Johnston, 2010; Johnston, Crooks, & Ormond, 2015; Masoud, Alireza, Mahmoud, & Zahra, 2013). A large body of research has specifically focused on patient satisfaction with the quality of treatment (Connell, 2013; Han & Hyun, 2015). While the growth of medical tourism has attracted the attention of more researchers, the volume of publications is only slowly increasing (Ganguli & Ebrahim, 2017). Research on the sector is still scarce with regard to consumers' behavior, experiences related to particular medical procedures, the impact of Internet searches, and the information available to make informed travel decisions (Connell, 2013; Cormany & Baloglu, 2011; Lunt, Hardey, & Mannion, 2010; Penney, Snyder, Crooks, & Johnston, 2011).

Few previous studies have included empirical research on experiences of cosmetic procedures reported online by medical tourists in the post-experience phase. This research gap can be bridged by probing the implications of unstructured user-generated reviews, thereby greatly improving the current understanding of medical tourism businesses' key drivers and priorities. In order to address this gap more fully, the present study investigated two areas of medical tourism: cosmetic and dental procedures.

The research had two main research objectives. It sought, first, to identify the dominant concepts and narratives shared by medical tourists online. The second aim was to explore gender differences regarding cosmetic and dental surgery. This study, therefore, followed the typology framework developed by Krippendorff (2012) for a standardized validation of textual content analyses.

In quantitative Web content analysis, the cited framework is particularly relevant when identifying key attributes in large text quotations, as well as word frequency and intensity. Thus, after medical tourists' post-procedural reviews were quantitatively summarized into interpretable attributes, the narratives could be analyzed qualitatively (Krippendorff, 2012) to provide guidelines for managers seeking to add or improve service attributes.

The present study's results contribute to the literature on actual, post-procedural experiences of medical tourists related to cosmetic and dental surgeries. These post-experience narratives include the impact of consumer satisfaction, Web-based information, and willingness to recommend to others in the context of an increasing interest in cosmetic and dental procedures in host countries. The findings have both theoretical and practical implications, including adding to the slowly growing body of literature on medical tourism and providing significant information to prospective medical tourists, healthcare service professionals, hoteliers providing accommodation services, and other medical tourism operators who have become part of consumers' total experience (Stumbo & Pegg, 2005). Furthermore, the present study identifies new themes based on semantic analyses that help to explore medical tourists' behaviors, feelings, and intentions.

This research's results suggest that the services provided by "clinics" is the strongest theme, followed by tourists' overall "treatment" experiences, the "time" needed to collect healthcare information, and "recommendations" made to others. Gender was found to be an important factor in how consumers evaluate different attributes of treatments. The present study thus offers a way to identify the most meaningful terms medical tourists use, taking research on this material a step further and structuring it for easy use in questionnaire-based studies.

This paper continues with a review of the relevant literature on medical tourism and the use of Web content to assess tourist experiences. The data and methodology are then presented, followed by the analyses' results. The penultimate section discusses the importance of these findings, followed by the conclusions.

## 2. Literature review

### 2.1. *Medical tourism: context and factors*

The literature provides no standard definition of medical tourism that has been accepted by all scholars. The term may have first been used to designate another tourism segment marketed by travel agencies and/or tour operators who traditionally sell holiday packages. Medical tourism has now become a combination of vacations and affordable cosmetic and dental procedures (Burkett, 2007). For this study's purposes, the definition used is that medical tourists are individuals who travel across international borders intending to receive some kind of medical treatment (Adams, Snyder, Crooks, & Johnston, 2015; Lunt et al., 2011). Traveling abroad for healthcare benefits is not a new concept. In the eighteenth and nineteenth century, many Europeans traveled to remote locations to use spas considered to have health-enhancing properties (Condrea, Constandache, & Stanciu, 2014). The current form of this trend is to receive treatments ranging from cosmetic procedures to major invasive surgeries (Cormany & Baloglu, 2011). Among other demographic drivers of medical tourism demand, increased life expectancy and an aging population in the West have played a significant role in generating a growing need for healthcare services (Connell, 2006). However, research focusing on the impact of other sociodemographic variables, such as age, gender, and existing health status and conditions, on the composition of the medical tourism market is still scarce (Lunt et al., 2011). The present study contributes to filling this gap by exploring gender differences in cosmetic surgery and cosmetic dentistry, which are the two most common types of procedures in medical tourism (Kelley, 2013). The treatments available abroad for these areas range from dental implants to multiple cosmetic surgeries (Connell, 2013; Kelley, 2013). Cost is found to be a strong determinant of the pursuit of cosmetic procedures because some forms of esthetic procedures are excluded from healthcare coverage (Lunt et al., 2011). Furthermore, patients seek optimal value for their money and think that foreign healthcare services often are of higher quality and much cheaper than these individuals' national services (European Hospital and Healthcare Federation, 2015). While the array of treatments available abroad for prospective medical tourists is large, the most common procedures driving the demand for medical tourism are cosmetic

### 2.1.1. *Cosmetic surgery*

Retaining a youthful attitude and appearance is the zeitgeist that drives medical tourism (Öberg & Tornstam, 2001). Cosmetic surgery is in keeping with this spirit as it enables people to develop an image they find more self-fulfilling (Salehahmadi & Rafie, 2012). Women generally drive the demand for cosmetic surgery, for which several possible explanations have been suggested. These reasons are not necessarily mutually exclusive. One is that women in Western societies have options, resources, and opportunities to access a greater array of medical tourism choices (Wilson & Little, 2005). In addition, the larger number of older women has also increased the demand for cosmetic surgery (European Commission, 2014), with advertising for cosmetic procedures more exclusively targeting women (Ackerman, 2016). A combination of these factors and increasing competition adds to women's interest in these treatments.

The American Plastic Surgeons' report in 2015 ranks breast enhancements as the most common, followed by liposuction, nose reshaping, eyelid surgery, and tummy tucks (American Society of Plastic Surgeons, 2016). While some of these procedures may seem frivolous or even vain, the bottom line is that cosmetic surgery—even minor enhancements—can have a major effect on individuals' well-being, self-esteem, and quality of life (Delinsky, 2005). One positive outcome is that the results often enhance the patients' body image and confidence (Honigman, Phillips, & Castle, 2004).

### 2.1.2. *Cosmetic dentistry*

Sanders and Spencer (2005) found that half of all adults are not satisfied with their teeth and are unwilling to pay for expensive facial surgery. Thus, cosmetic dentistry presents an affordable, attractive alternative to facial surgery. This has led to an increase in demand for cosmetic dental procedures (Herrick, 2007). A recent survey by the American Academy of Cosmetic Dentistry (AACD) (2015) conducted between September and November of 2015 indicated that revenue from cosmetic dentistry procedures showed a four-point increase (i.e., from United States (US) \$500,000 to more than \$1 million) compared to 2013.

Cosmetic dentistry is growing because of the new emphasis on esthetic smiles (AACD, 2015). Whitening and/or bleaching is the most common procedure, while veneers, tooth-colored inlays, tooth-colored crowns, and dental bonding are also among the top five procedures (AACD, 2015). In addition, many individuals have a heightened awareness of the link between oral health and overall health. These trends have influenced professionals to integrate dental care and cosmetic work. Thus, traveling abroad for cosmetic dentistry is a tendency that will continue to grow (Kim, 2013; Nicolaides & Zigiariadis, 2011).

### 2.1.3. *Medical tourism destinations*

Medical care travelers have generally flowed from underdeveloped countries to advanced economies (Lunt et al., 2011). However, that pattern is currently reversing itself as patients in wealthy nations seek cost-effective treatments in emerging markets. This shift is the result of growing economic and political cooperation, which has promoted the international mobility of patients and healthcare professionals (Horowitz & Rosensweig, 2007; Kelley, 2013).

Medical tourism is becoming a prosperous business globally and, in particular, for some European, Asian, and South American countries (Wang, 2012). Many of these destinations offer more than just surgery. They feature packages that include enticing tourism opportunities (Crooks et al., 2010). Medical tourism has continued to grow in the following top 10 countries in terms of volume of care: Thailand, Hungary, India, Singapore, Malaysia, the Philippines, the US, Costa Rica, Brazil, and Mexico (Bristow & Yang, 2015; Deloitte, 2015). A number of these countries are developing strategies in medical tourism focusing on both quality of services and competitive prices (Burkett, 2007) to increase their market share. As a result, the majority of medical tourists seek care outside their native home to save money and time.

The cost of treatments abroad varies based on multiple factors, including hospitals, doctors' experience, accreditations, and exchange rates. Significant differences have been noted among destinations (Medical Tourism Association, 2016). For example, a dental implant can range from US\$2700 in Singapore to \$800 in Costa Rica. Breast implants are the most popular treatment, ranging from US\$8400 in Singapore to \$2500 in Colombia (see [www.medicaltourism.com](http://www.medicaltourism.com)). Facelifts, the second in popularity, run from \$11,000 in the US to US\$440 in Singapore. Because of these potential cost savings and aging populations worldwide, the medical tourism industry's growth will continue on an upward trajectory in the foreseeable future.

### 2.1.4. *Medical tourists' post-procedure experiences*

Medical tourism post-procedure experiences have to balance two aspects. On the one hand, the patients' experiences need to ensure these individuals are repeatedly attracted and satisfied (Salehahmadi & Rafie, 2012). On the other hand, risk is inherent in almost every medical procedure. Medical tourists can experience health complications abroad or domestically (Hanefeld, Smith, Horsfall, & Lunt, 2014), although patients will likely feel more comfortable dealing with complications in familiar surroundings, all other things being equal. Therefore, patient satisfaction is an important dimension of healthcare treatment in medical tourism, even though relatively little is known about the experiences of medical tourists (Lunt et al., 2011).

These patients generally report high satisfaction with the quality of care received in destination countries, but it is still unclear whether this high level of satisfaction includes all types of treatments (Ehrbeck, Guevara, & Mango, 2008). Concerning risk levels, complications increase patients' costs if they need to remain abroad (Freire, 2012) or if complications persist after returning home (i.e., via increased demand on national health services) (Hanefeld et al., 2014).

## 2.2. *Role of Web contents in medical tourism*

The Internet plays a significant role in the medical tourism industry as a key link between medical tourists' reviews and potential consumers' decision-making behavior (Lai & To, 2015; Zeng & Gerritsen, 2014), facilitating the availability of relatively objective and trustworthy information (Lai & To, 2015; Zeng & Gerritsen, 2014). The websites that display information posted by former medical tourists can thus be a source of information for those at the decision-making stage (Yu, Carlsson, & Zou, 2014). In recent years, medical tourists have started searching the Internet to access information on healthcare and available medical treatments before they decide to travel abroad (Masoud et al., 2013). Websites are a more accessible medium for information about medical tourism than other media are, including individual correspondence or letters (European Hospital and Healthcare Federation, 2015). Social media comprise Internet-based applications developed on the technological foundations of Web 2.0, enabling the creation and exchange of user-generated content (Karimov, Brengman, & van Hove, 2011). Because medical tourists want to know about other patients' experiences, Web 2.0 has evolved into a collaborative platform that allows medical tourists to share information and their overall experiences (Cormany & Baloglu, 2011). The personal element of social media communities induces high levels of trust, which results in the perception that the posted information is reliable (Karimov et al., 2011).

Patients are naturally apprehensive about traveling abroad for treatment, so choosing doctor(s), procedure(s), and/or hospital(s) is a major decision. The more opinions patients gather, the more secure they may feel. Individuals' reports of medical experiences are considered to be unbiased, and these reviews are an important factor in other prospective patients' choices of the right treatment (Yoo & Gretzel, 2008). Losken, Burke, Elliott, and Carlson (2005) conducted a survey of how breast augmentation patients use the Internet. The results show that 68% access the Internet for information, and, of this subset, online information influences decision-making processes about the procedure (53%), choice of surgeon (36%), and choice of hospitals (25%).

Medical tourism websites offer a range of functionalities and formats that include discussion forums, shared files, posted information, shared experience, members-only pages, advertisements, and virtual tours (Lunt & Carrera, 2010; Lunt et al., 2011). The websites vary widely in scope, content, professionalism, and depth of information. Interpretations of these websites are the fundamental issue regarding how online information's credibility is established (Lunt et al., 2011; Penney et al., 2011). Consequently, as a growing source of influence in the medical tourism industry, the creation, sharing, and use of online information about medical experiences have attracted the attention of many researchers and service providers (Bonn, Furr, & Susskind, 1999).

Despite the growth of websites dedicated to medical tourism, little empirical evidence exists on the use and impact of these websites on medical tourists' behaviors (Lunt & Carrera, 2011). The content of online reviews generated by medical tourists can provide natural data to researchers (Zhang & Cole, 2016), helping them to make further progress through medical tourism studies seeking to identify the most influential services attributes.

The present research's contribution is to discern how medical tourists' comments and ratings in social media influence prospective patients' decision-making processes. By mapping the word content of these reviews, the results capture the characteristic patterns of how patients review treatments, hospitals, clinics, and medical tourism agencies. These information patterns were analyzed according to demographic attributes (e.g., gender) and medical procedures to pinpoint the drivers of medical tourism and patients' experiences.

### 3. Methodology

#### 3.1. Research context

We collected data from the reviews posted on the Treatment Abroad website. All the medical tourists in the sample had received some kind of cosmetic procedure (8 dental and 21 cosmetic) in 29 clinics in 15 foreign countries, and these individuals came from 34 countries. The data corresponded to 8 years of reviews from 2008 to 2016.

*Treatment Abroad* is the leading online medical tourism portal and, thus, is widely used to conduct research on the industry. The website has received the label of the Health On the Net Foundation (HON), which promotes and guides the deployment of useful and reliable online health information and its appropriate and efficient use (see [www.hon.ch](http://www.hon.ch)). HON has been connected to Private Health Care in the United Kingdom's (UK) main portal since 1997. These websites serve as a gateway for patients and all types of healthcare providers, including hospitals, doctors, dentists, and healthcare products and services companies who wish to engage the public.

The present study selected the Treatment Abroad website using the systematic review conducted by Lunt and Carrera (2011). The cited authors evaluated 50 medical tourist websites based on the eight principles that make up the HON code. Of the 50 sites examined, only three sites, including [www.treatmentabroad.com](http://www.treatmentabroad.com), met content quality standards that contribute toward informed decision making (Lunt & Carrera, 2011). The large number of reviews of the most common medical tourism cosmetic procedures was also a major criterion for the current research's selection of this review site. Treatment Abroad offered 603 reviews in English, which was considerably more than other medical portals. The data retrieved from the reviews was related to medical specialization, detailed information on operations or treatments, age, gender, country of origin, destination country, review date, and postprocedure experience comments (see <http://reviews.treatmentabroad.com>).

### 3.2. Content analysis

The present study used a mixed-method approach that involved both quantitative and qualitative content analyses (Zhang & Cole, 2016) since the best approach to analyzing content is to blend quantitative and qualitative methods (Weber, 1990). In particular, Leximancer software was used because its interface combines qualitative and quantitative approaches from information science to help analyze complex textual data. A clustering algorithm was applied to display the major themes and concepts' relationships (Smith & Humphreys, 2006).

Quantitative content analysis was used to summarize medical tourists' perceptions of medical services via word occurrence frequency (Zhang & Mao, 2012). In addition, the qualitative approach of narrative analysis facilitated the conceptualization of patients' perceptions of their overall experience. To this end, Leximancer 4.0 was used to analyze medical tourists' reviews of clinical experiences. This lexical software maps conceptual information from large text collections (Smith & Humphreys, 2006) by clustering concepts according to the relationships between them (Stepchenkova & Morrison, 2006). Leximancer has been used in tourism research for just over a decade (Scott & Smith, 2005), and this software has recently been applied in studies of destination image, shopping experiences (Wu, Wall, & Pearce, 2014), and news media (Imison & Schweinsberg, 2013).

### 3.3. Methodological approach

From the 603 medical tourist reviews selected, 88,672 words were saved, including content related to cosmetic dentistry (47,685 words) and cosmetic surgery (40,987 words). For the purposes of this research, the methodology was developed in four phases. First, the goal and scope of the analysis were defined in order to identify medical tourism key attributes more clearly. The defined scope involved only the content-based analysis of cosmetic procedures. Second, the data were collected to identify the most significant Web page related to medical tourism cosmetic procedures. Third, the sample was classified by type of treatment and medical tourists' overall rates, gender, country of origin, and country of treatment. Last, the data were analyzed using a mixed-method approach based on Leximancer's tools, combining quantitative and qualitative data analysis.

Leximancer software generated a thesaurus, after which a machinelearning algorithm was applied to determine the optimal thesaurus words from the text data, grouping the words by themes (Leximancer Pty Ltd, 2016). In the Qualitative results section below, a global concept map is presented of cosmetic procedures, with tags for cosmetic surgery and cosmetic dentistry by gender. The qualitative content analysis isolated the themes and concepts in the reviews. These provide the demographic information needed to compare and segment consumers by medical procedure and gender. The frequency analysis's results include the most frequent words in cosmetic surgery and dentistry reviews extracted by Leximancer, allowing a comparison of experiences of these types of medical treatment.

## 4. Results

### 4.1. Quantitative results

In this study, Leximancer analyses produced a word cooccurrence matrix from which concepts could be identified. Leximancer then grouped the concepts into themes based on how often they appeared in blocks of text (Smith, 2003).

#### 4.1.1. Sample characteristics

The sample consisted of 603 consumers who had undergone cosmetic procedures (see Table 1 for demographic attributes). The sample included slightly more posts for cosmetic dentistry (331 comments, 55%) than cosmetic surgery (272 comments, 45%). The largest percentages of the reviewers sampled were between 45 and 54 years old,

Table 1 Demographic attributes.

Demographic	Dimensions	Cosmetic	Dental	Values	Total
Gender	Female	242	166	408	68.0%
	Male	30	165	195	32.0%
Age	16-24	29	24	53	8.8%
	25-34	72	43	115	19.0%
	35-44	65	63	128	21.3%
	45-54	64	109	173	28.7%
	≥55	42	92	134	22.2%
Clinic/destination country	Belgium	159	-	159	26.4%
	Turkey	-	118	118	19.6%
	Hungary	-	104	104	17.3%
	Slovakia	30	57	87	14.4%
	Poland	-	38	38	6.3%
	Others	83	14	97	16.0%
	Total	272	331	603	100%

followed by the 55-years-old, or older group. The latter is treated as one category on the Treatment Abroad website. Medical tourists older than 45 years old represent 51% of the present sample.

#### 4.1.2. Countries of origin and destinations

The medical tourists under study are from 34 countries. A clear majority is from the UK (65%). The second highest percentage is medical tourists from Ireland (11%), followed by those from Norway (4%). Individuals from Australia, Spain, and the Netherlands only make up 2% of the sample, while tourists from the US, Belgium, Switzerland, and Malta add up to 1% and people from other parts of the world are 8% of the sample.

Table 1 above lists the 15 destination countries to which medical tourists travel to receive treatment. Belgium is the European country to which by far the most reviewers (159) traveled for cosmetic enhancements, while Turkey (118) was the most popular place for dental treatment, followed by Hungary (104).

Medical tourism ratings from 1 to 5 stars enable reviewers to provide overall feedback based on their treatment experiences. In the analysis, various types of satisfaction ratings were examined. The results indicate that medical tourists gave their experiences high ratings overall, but ratings were higher in the cosmetic dentistry group than the cosmetic surgery category. Essentially, the areas rated with the highest scores are consistent with the most important themes found in the qualitative results, including the theme of “clinic” –corresponding to the concept of “hospital/clinic environment” –or the theme of “treatment” –corresponding to the concept of “outcome of treatment.” Overall, females show higher satisfaction with cosmetic dentistry (4.91) and males with cosmetic surgery (4.84). Notably, the lowest ratings were given to “patient communication.”

#### 4.2. *Qualitative results*

The qualitative results facilitate the determination of the meaning of the Web content analysis results (e.g., experiences, opinions, and feelings). This led to the identification of the main themes and concepts.

##### 4.2.1. *Cosmetic procedures: cosmetic surgery and cosmetic dentistry*

The overall results for reviews of cosmetic procedures reveal seven themes in the concept map generated by Leximancer (see Fig. 1). This map includes concepts shown as small gray dots that are grouped into themes indicated by the larger colored spheres (Wu et al., 2014). The dominant themes in terms of connectivity and importance are “clinic” (756 hits), “treatment” (683 hits), “time” (671 hits), “recommend” (664 hits), “happy” (185 hits), “cost” (80 hits), and “questions” (67 hits), which together represent medical tourists' experiences.

In Fig. 1, males' reviews are more closely associated with cosmetic dentistry, and they relate to two major themes: “cost” and “treatment.”

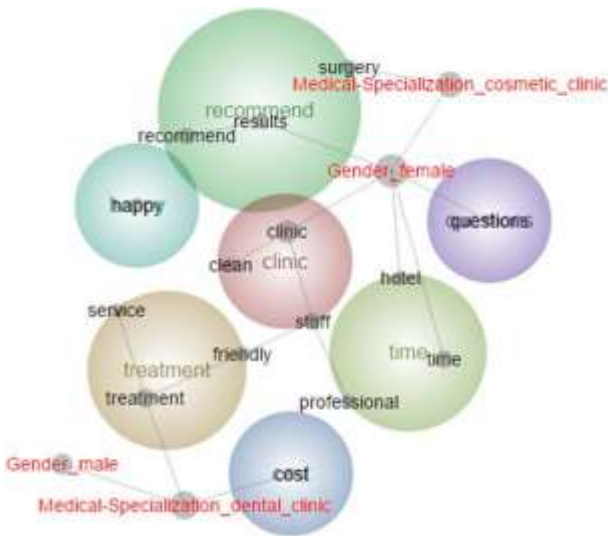


Fig. 1. Concept map view of cosmetic surgery and dentistry.

The evidence in the concept map also indicates that females are more closely connected to cosmetic surgery, and they focus on themes such as “recommend,” “clinic,” “time,” and “questions.”

#### 4.2.2. Qualitative content analysis

The qualitative method of narrative analysis was adopted in this research to conceptualize not only medical tourists' experiences but also their appraisals of medical facilities and staff (Gong, Xie, Peng, & Guan, 2015). This qualitative approach fully embraces the interpretive nature of medical tourists' narratives as shown in textual variation (Banyai, 2012). A growing trend in this kind of research is to adopt a mixedmethod approach that combines quantitative methods with unstructured qualitative methods in order to capture a broader range of the components of medical tourists' online comments (Cormany & Baloglu, 2011). In the present study, healthcare experiences as described by medical tourists were decomposed into quotations full of individualized details. In Table 2, the quotations are tagged by gender to demonstrate how female and male medical tourists assign meaning to their healthcare experiences.

#### 4.2.3. Cosmetic surgery

Tags indicating gender were also used to determine split sample tests by type of treatment. The concept map in Fig. 2 below identifies six dominant themes in cosmetic surgery. Ranked by their importance, these are “treatment” (697 hits), “staff” (313 hits), “recommend” (267 hits), “service” (197 hits), “happy” (185 hits), and “cost” (113 hits).

The concept map shows that reviews written by males who have undergone cosmetic surgery are closely associated with “service,” “treatment,” and “cost.” Females' reviews are closely linked with “treatment,” “recommend,” and “happy.”

#### 4.2.4. Cosmetic dentistry

In the next step, a concept map was generated that reveals the most common themes and concepts found in cosmetic dentistry reviews, as well as the frequency of these words occurrences and cooccurrences (see Fig. 3). In this part of the analysis, seven themes were identified: “treatment” (520 hits), “clinic” (374 hits), “happy” (281 hits),



Table 2  
Qualitative content analysis.

Theme: concept words	*C <sup>a</sup>	*G <sup>b</sup>	Comments
Clinic (756 hits): Clean, staff, friendly, hotel, service, recommend, surgery, professional	D <sup>c</sup>	F <sup>e</sup>	The clinic was outstanding and very clean.
		M <sup>f</sup>	You think you are in a 5-star hotel and not in a clinic.
	C <sup>d</sup>	F	[This is a] beautiful and very modern clinic. Everything [is] very clean.
Treatment (683 hits): Cost, service, professional, friendly, happy, clinic, recommend, staff		M	I did much research on him and his clinic before I made the decision to have my operation with him.
	D	F	This is my first treatment of 4 over a year and already I feel better and can SMILE with confidence.
		M	Overall, the treatments, which were teeth implants, were a complete success and highly recommended.
	C	F	[These are f]antastic treatments [to get] while on a holiday or [you can] just go for the [lower] cost.
Time (671 hits): Surgery, hotel, cost, professional, results, clinic, questions, clean		M	The [m]anager put together a treatment package for me, which was excellent value for money.
	D	F	I was there for 10 days this time, but I did meet a couple who were there for 3 [and a] half weeks.
		M	I went over 4 times for extensive work and every other patient that I met had amazing teeth.
	C	F	I spent hours, researching surgeons, and reading reviews.
		M	[The d]eliver excellent services coupled with the time to explain procedures thoroughly, ensuring that you have a clear understanding of the treatment [and] its effect and impact.
Recommend (664 hits): Service, clinic, surgery, professional, results, happy, treatment, staff	D	F	I have no problem recommending the clinic to everyone.
		M	I can highly recommend [this] to everyone [ . T]hey are so professional and helpful, it makes the whole procedure a pleasant one.
	C	F	I just have some tightness in the neck area due to the Lipo[ . T]his is normal and should go within a month or so. I would recommend the surgeon and his staff.
		M	I am so happy ... [that] only 2 weeks post op ... I am already considering having another procedure[ . I feel] no hesitation at all in recommending this clinic.
Happy (185 hits): Results, treatment, recommend, questions, surgery, clinic, professional, friendly	D	F	I was a little nervous [be]cause did not know if the [c]linic could do [what I needed so] that I would feel completely happy.
		M	At the end of the week, they dropped me back to [sic] the airport and made sure I was happy with everything before I left.
	C	F	I am so happy with my perfect and beautiful, good-looking breasts. They are especially beautiful[ly suited] to my figure.
		M	But, now I am not the same older person. Now I am a very happy person with younger and smarter looks.
Cost (80 hits): Treatment, hotel, time, service, results, surgery, recommend, professional	D	F	The cost was also a major factor—the prices in the UK were out of reach.
		M	I [have] often considered having this work done on my teeth in my country, but the prohibitive cost puts me off.
	C	F	So[, I] combin[ed] a holiday with surgery at a less [sic] cost than I would pay in the UK.
		M	It was approx. 60% of the cost of having this done in the UK including travel & hotel expenses for two of us.
Questions (67 hits): Friendly, surgery, hotel, staff, happy, time, professional, clinic	D	F	I never had to wait more than a few hours for a response to a number of typical customer questions I had sent by email.
		M	[The f]irst call was informative and they answered all my questions.
	C	F	She answered all of my questions and I was never rushed.
		M	The staff were friendly and answered my questions fully.

Notes: \*C = clinic; <sup>b</sup>G = gender; <sup>c</sup>D = cosmetic dentist; <sup>d</sup>C = cosmetic surgery; <sup>e</sup>F = female; <sup>f</sup>M = male.



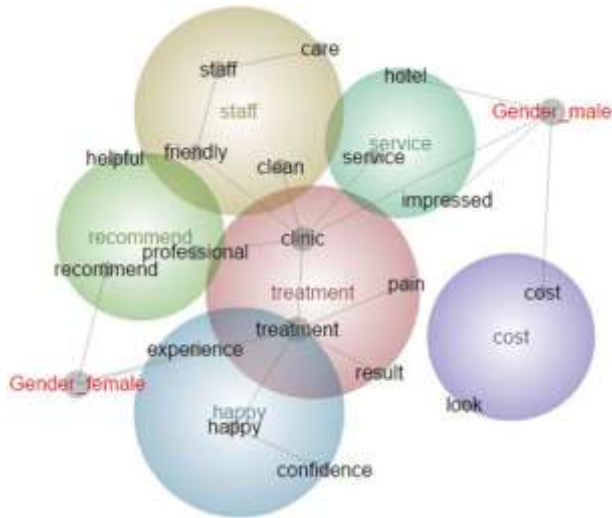


Fig. 2. Concept map view of cosmetic surgery.

“recommend” (266 hits), “service” (197 hits), “confidence” (79 hits), and “cost” (72 hits).

In Fig. 3, reviews by males who selected cosmetic dentistry are closely associated with “service” and “cost.” Females' reviews are more closely connected with “treatment,” “recommend,” and “clinic,” as was the case with cosmetic surgery.

4.2.5. Frequency analysis

Table 3 below lists the 63 most frequently used words in cosmetic surgery online reviews and the 60 most common words in cosmetic dentistry online reviews posted by medical tourists. The top five were selected by the likelihood percentage of each concept, as well as using IBM SPSS Statistics 20, to conduct a descriptive statistical analysis. The top five words in both cosmetic surgery and dentistry reviews were identified as key medical tourism concepts. Tourists most often used the words “friendly” and “cleaning” when referring to the clinic or hospital facilities, whereas medical experiences are reinforced by other

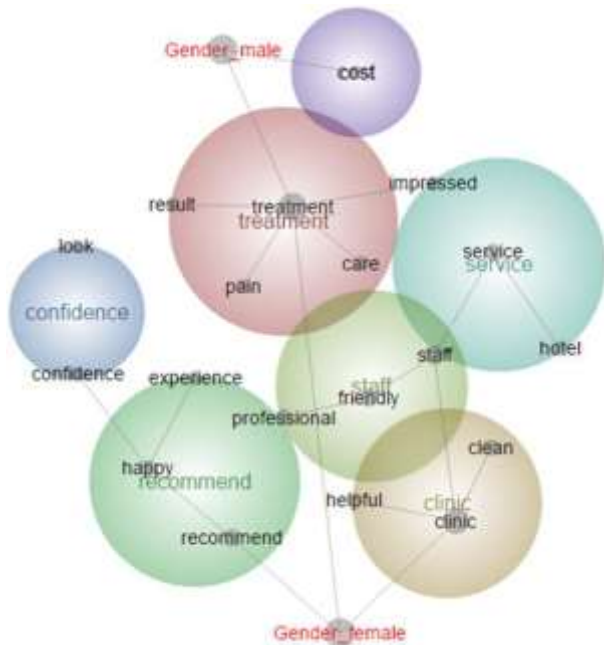


Fig. 3. Concept map view of cosmetic dentistry.

Table 3  
Most frequently used words.

Cosmetic surgery: keywords (N = 63)			Cosmetic dentist: keywords (N = 60)		
Keywords	Frequency	Percent	Keywords	Frequency	Percent
Friendly	8	12.7	Friendly	8	13.3
Clean	7	11.1	Clean	7	11.7
Helpful	7	11.1	Helpful	7	11.7
Staff	6	9.5	Staff	6	10
Confidence	5	7.9	Confidence	5	8.3
Experience	3	4.8	Happy	3	5
Happy	3	4.8	Impressed	3	5
Impressed	3	4.8	Look	3	5
Look	3	4.8	Pain	3	5
Pain	3	4.8	Result	3	5
Result	3	4.8	Experience	2	3.3
Service	3	4.8	Hotel	2	3.3
Hotel	2	3.2	Recommend	2	3.3
Professional	2	3.2	Service	2	3.3
Recommend	2	3.2	Care	1	1.7
Care	1	1.6	Clinic	1	1.7
Clinic	1	1.6	Professional	1	1.7
Treatment	1	1.6	Treatment	1	1.7
Total	63	100	Total	60	100

words such as “helpful,” “staff,” and “confidence.” Tourists who have undergone cosmetic procedures describe their medical experience in terms of being “happy” and “impressed” with their overall “look.” The analysis also revealed that tourists who received cosmetic dentistry treatments are “happy” and “impressed” with the “look” achieved by treatments.

## 5. Discussion

The research, therefore, was narrowed down to focus on major concepts and themes (Crofts & Bisman, 2010). These were based on both cooccurrence frequency and a careful assessment of the identified concepts' meaning. More specifically, words or concepts identified by the analysis that were not meaningful (e.g., “ok,” “great,” and “often”) or too generic (e.g., “facilities” and “facility”) were deleted from further analysis. In addition, some similar concepts (e.g., “plastic surgery” and “cosmetic surgery”) were merged.

The concept map in Fig. 1 above addressed the first research objective by identifying the degree of influence of the seven major themes that explain medical tourists' overall descriptions of their cosmetic procedures. The separate analyses of the groups submitted to cosmetic surgery and cosmetic dentistry, as shown in Figs. 2 and 3 above, revealed six themes that explore gender differences, thereby addressing the second research objective.

This section first discusses the implications of tourists' overall depictions of cosmetic procedures (i.e., cosmetic surgery and dentistry) and the key attributes represented by themes in the concept maps. The second part of this section analyzes the demographic factors and narratives of the two groups of tourists: cosmetic surgery and cosmetic dentistry. This analysis identifies medical tourism attributes based on the two study populations' values and their managerial implications for service providers.

### 5.1. Overall description of cosmetic procedures

“Clinic” is the strongest theme in the narratives of medical tourists who have undergone cosmetic procedures. Medical tourism is currently considered one of the fastest growing tourism sectors worldwide (Penney et al., 2011). The connection between tourism and the healthcare industry has resulted in what is one of the largest service industries in many countries (Heung, Kucukusta, & Song, 2011). To capture a market share in the medical tourism industry, a large number of clinics have improved their services to offer a superior level of services

that will attract medical tourists (Han, 2013; Hume & Demicco, 2007). These medical facilities offer high-quality medical treatment and attentive service to their international customers (Han, 2013).

The intention to visit and/or revisit is critical in the tourism context, and clinics and hospitals want to succeed in the competitive world of medical tourism (Han & Hyun, 2015). The present study found that medical tourists deem clinics' level of service to be the most significant factor in their experiences, which enhances the likelihood of repeat visits and positive reviews. However, Han and Hyun (2015) argue that international medical tourists consider the quality of healthcare treatment offered by clinics to be more significant than the service provided by staff. Thus, these tourists are more likely to revisit when they have a high overall level of trust in the clinics in question (Han & Hyun, 2015). Researchers have suggested efforts to improve clinics' quality need to include up-to-date facilities, hotel-style service, well-trained service employees, and more efficient communication (Lee, Han, & Lockyer, 2012).

The second most-frequently mentioned attribute in the present results is “treatment,” which emphasizes the relationship between treatments and holiday costs, including positive comments that relate excellent value for money to happiness with the service. Treatment is a broad term that incorporates quality of treatment, safety, equity, mitigation of risk, financial issues for patients and for destination countries, and impacts on providers and professionals of medical tourism (Lunt & Carrera, 2010).

Medical tourists give high value to treatments as shown in reviews reporting high satisfaction with quality of care received in destination countries. These tourists describe the facilities as “friendly” and “clean,” and these positive depictions are reinforced by other words related to staff such as “helpful” and inspiring “confidence.” Finally, the tourists write that they are “happy” and “impressed” with their overall “look” after their treatments.

The results reveal narratives interact in various ways with demographic attributes, as “treatments” and related health improvements depend on gender, behavioral factors, and level of education (Lunt & Carrera, 2011). As the level of education is rising worldwide and gender differences are tending to decline, further healthcare improvements are expected by many, and quality of treatment is of particular importance for the growing senior population (Voigt, Brown, & Howat, 2011).

“Time” is a rich theme covering information on the time prospective medical tourists spend searching for information prior to undergoing medical treatment. This theme is also closely connected to patients’ recovery from surgery after treatment. Naturally, prompt service has a significant effect on customer satisfaction (Mathies & Burford, 2011). Recovery time is important for medical tourism activities as it typically includes staying abroad for at least part of the recovery period, during which the post-discharge period can be spent in tourist resorts that cater to international medical tourists (Adams et al., 2015).

The “recommendation” theme in reviews included positive evaluations by medical tourists of the services provided. Typical comments on this theme mention the services provided by clinics and medical staff. Recommendations are important to prospective medical tourists as the endorsements of friends and favorable online reviews by strangers are the most critical factors that influence tourists’ online booking behavior (Lunt & Carrera, 2011; Salanova, Agut, & Peiró, 2005). The present results are in line with Patterson’s (2007) findings that, for medical tourism, personal experiences and word-of-mouth recommendations are the two most powerful information sources used in decision making (Patterson, 2007).

The concept “happy” is an affective attribute since happiness with life in general can have a positive influence on patient satisfaction (Mathies & Burford, 2011). Health status, in turn, has a significant positive effect on happiness. A study conducted by Gerdtham and Johannesson (2001) revealed that—in addition to health status—socioeconomic variables, gender, and education may be just as important as income for happiness (Gerdtham & Johannesson, 2001). More specifically, medical tourists who have undergone cosmetic procedures link their happiness with feeling satisfied with their image, so they expect to feel more attractive after treatments (Salehahmadi & Rafie, 2012).

A less frequently mentioned attribute that could be a potentially influential aspect of medical tourism is “cost.” This is a driver for medical tourism because treatments are often available in home countries but at a greater cost (Hanefeld, Horsfall, Lunt, & Smith, 2013). According to Oh (2000), perceived price plays a significant role in decisions because price perception influences customers’ decisions to engage in repeated business and spread positive word of mouth. Furthermore, cost savings are also considered a major motivation factor for dental tourists aged 31 to 59 (Jaapar, Musa, Moghavvemi, & Saub, 2017).

The present finding is in line with the results reported by Han and Hyun (2015), who indicate that, in the medical tourism context, clinics and destination countries must recognize the essential role of price reasonableness and utilize this strategy when promoting more efficient ways to boost customer retention and maximize revenue. Furthermore, researchers recommend market segmentation. For example, an upperclass medical tourist might be willing to pay more for high-quality clinics and safe medical care than the great majority of customers who prefer less costly medical care (Han, 2013).

The last theme is “questions,” which is often connected to friendly staff and the way they can provide all necessary information before treatments. Question is a significant concept since reliable information exchange is an essential component of decision-making processes (Crooks et al., 2010). This theme is also important in the healthcare context due to the presumed impacts of medical-care expenditure and treatment outcomes on patients’ well-being (Arunanondchai & Fink, 2005). Hospitals can also play a major role in improving communication with prospective medical tourists through their websites, adding texts in different languages and providing preand post-procedure information (Moghavvemi et al., 2017).

## 5.2. Demographic factors and narratives by groups

Medical tourism research has seldom investigated the effect of gender on behavior, but studies have found that, in general, women and men are involved differently in the consumption of tourism (Swain, 1995). Gender roles influence all aspects of life including choices in tourism (Jordan & Gibson, 2005). The present research had a particular interest in analyzing gender differences in evaluations of cosmetic surgery and dentistry experiences.

A comparison of the concept maps generated revealed that men who have undergone cosmetic dentistry (see Fig. 2 above) and cosmetic surgery (see Fig. 3 above) most often value “treatment,” “cost,” and “service.” In contrast, women’s reviews are associated closely with the themes of “recommend,” “happy,” “treatment,” and “clinic.”

Two new themes were identified in the cosmetic surgery group’s narratives— “staff” , “service” –, and two themes in the cosmetic dentistry group— “service,” which overlaps with cosmetic surgery themes, and “confidence.” Service also connects with the concept of quality, and perceived service quality has been found to be a critical component that can significantly influence the perceived value of medical tourism (Wang, 2012). Service quality is also a major predictor of long-term growth and profitability, so service providers must recognize the harm caused by low standards of integrity and make an effort to build consumer trust (Gong et al., 2015), particularly in healthcare service contexts.

Brady and Cronin (2001) define customer service orientation as the willingness to adjust service delivery to meet customers’ needs and preferences. For example, patients who perceive a higher level of service quality show greater satisfaction with services, as well as a higher level of loyalty to clinics and/or hospitals that provide medical services (Marković, Lončarić, & Lončarić, 2014).

Notably, the present study’s results show that “staff” is ranked as the second most frequently mentioned attribute in cosmetic surgery, which underlines the importance of the human factor. Employees have the ability to shape customers’ perceptions of clinics or treatments, and



customers develop an attachment to clinics through the human factor of these facilities' staff (Zhang & Mao, 2012). The current research's findings support Han and Hyun's (2015) conclusion that perceived quality, satisfaction, and trust in staff and clinics significantly influence intentions to revisit clinics and destination countries.

Patients who seek treatment abroad can benefit from major cost savings (Han, 2013). For healthcare clinics that have already established a reputation for high quality services, their competitiveness thus relies on the provision of these services at significantly lower prices (Arunanondchai & Fink, 2005).

"Confidence" is a new attribute mentioned by medical tourists who travel overseas for cosmetic dentistry. Clinics providing cosmetic procedures have to transmit credibility and inspire confidence (Lunt et al., 2010). Tourists evaluate the credibility of medical tourism destinations and develop positive destination images of these based on confidence (Dunne, Citation Dunne, Dunne, & Hanrahan, 2015). Knowing the importance of patients' confidence in treatments when choosing to travel abroad, some destination countries have established partnerships with world-renowned medical schools and hospitals in advanced countries as a shortcut to inspire high levels of confidence and immediate credibility (Kim, 2015).

The present study's results contribute to the limited literature on medical tourism decision processes in four ways. First, this research connected the experiences of medical tourists shared in online reviews with these individuals' behavioral intentions. Few previous studies have examined this link. The present study offers a way to identify the more expressive terms medical tourists use, showing that future researchers can use online comments to advance investigations in this field further and to structure online material into surveys or questionnaires (Pearce & Wu, 2016).

Han and Hyun (2015) tested a conceptual model explaining medical travelers' intention formation, proposing the identification of additional constructs in an international medical tourism context. To this end, the present study proposed a new conceptual model including the concept of "happiness," which can be applied while studying medical tourism and related cosmetic procedures, as well as the possible positive effects of happiness on "recommendations." By integrating these constructs into a proposed model, this research further strengthens the available theoretical framework and provides more explanations for tourists' intent to recommend.

Second, the present results emphasize how gender issues can affect medical tourists' overall perceptions of the two most common cosmetic procedures: surgery and dentistry. As discussed previously, both females and males score higher satisfaction ratings. Women's reviews are more closely associated with cosmetic surgery and men with cosmetic dentistry (see Fig. 1 above).

Very little has been written about gender specifically in reference to cosmetic surgery tourism (Holliday et al., 2013; Lunt et al., 2011). In addition, social media studies in tourism have had a limited ability to determine consistently the social composition of samples (Wu et al., 2014). The present study's results contribute to the quite restricted literature on medical tourists' treatment preferences by gender. This kind of demographic attribute can be used when addressing market segmentation. For example, while men value the "cost" of medical "treatments," women, who constitute the great majority of the cosmetic market (Ackerman, 2016), are more willing to "recommend" a "treatment" if they feel "happy" with the results.

Third, the present research used international medical tourists' spontaneous reviews in social media as the basis of analyses, which makes the data more authentic than what data researchers can coax from respondents. Previous studies have established that social media play a critical role as facilitating services for consumers in many aspects of their travel planning processes. For instance, because travel is an intangible concept and it cannot be evaluated beforehand, travelers tend to rely on social media as a source of past experiences to lower perceived risk and uncertainty (Ayeh, Au, & Law, 2013). Social media is essential to travelers as they decide destinations, accommodations, and activities, so social media affect their travel-related decision-making processes (Cox, Burgess, Sellitto, & Buultjens, 2009). The present study sought to enrich previous findings by contributing to an understanding of the information prospective medical tourists search for during the pre-travel phase (e.g., information on clinics and treatments) and post-treatment phase (e.g., shared medical experiences, reviews of clinics and hospitals, and descriptions of the outcomes of treatments).

Last, this research used Leximancer software, which is a powerful tool for unlocking the motivations and intentions of tourists. The results should help to disseminate its use, confirming that this is a potential best practice in the field of medical tourism. Leximancer has already attracted the attention of other tourism scholars (Wu et al., 2014).

The present study collected reviews posted from 2008 to present, providing insights for those planning to undertake further studies of medical tourists using social media—especially online reviews—as an information source. More importantly, the findings show that the characteristics of reviewers must be identified whenever possible in medical tourism studies, including reviewers' preferences, gender, country of origin, and country of treatment.

Although these findings offer valuable insights, some limitations of this study need to be acknowledged. The proposed methodology requires further validation and confirmation in future research especially in light of contributor or self-selection bias in online postings. This study was based on written statements on the Treatment Abroad website rather than face-to-face interviews that could offer opportunities to explore medical tourism experiences more deeply.

Another limitation of this study is the small number of negative reviews, which may not be a large enough sample to identify all the side effects of surgery and the issues that negatively affect medical tourists' cosmetic procedure experiences. Although the small numbers of negative reviews posted are a positive sign for medical providers, this may have affected this study's ability to identify a comprehensive range of potential dissatisfaction attributes, as well as influencing the interpretation of the results. Given that this research has mapped some salient concepts of medical tourism experiences, future work could focus on both discovering a broader range of characteristics and measuring these characteristics more accurately.

## 6. Conclusions

Medical tourism has become a significant niche of the tourism industry. Many tourists choose to have medical treatments abroad, and these travelers are eager to broadcast their experiences on the Internet. As the volume of reviews has increased, so has this information's credibility. Based on consumers' reviews, the present study was able to identify the key drivers of medical tourism and their interactions.

On a practical level, these results provide strategic information to marketers and medical tourism providers seeking to implement services or improve service attributes, whereby these professionals can maximize prospective customers' experiences. Medical tourism providers should first prioritize the identified key attributes, which can help to guarantee an efficient allocation of resources to enhance medical tourists' experiences.

In terms of degree of influence, the results suggest that services provided by "clinics" is the strongest theme in medical tourism, followed by overall "treatment" experiences, the "time" collecting healthcare information, and tourists' "recommendations." Less frequently mentioned attributes that can potentially influence medical tourism are medical tourists' "happiness" with results, the overall "cost," and prompt responses to customers' "questions." Further analyses showed that tourists who have undergone cosmetic surgery and cosmetic dentistry share the same

narratives when representing their medical experiences, but gender is an influential factor in these consumers' different evaluations of attributes. Another practical implication is that positive reviews can create an opportunity for medical tourism providers. Online reputations created mainly by favorable post-procedure reviews of experiences constitute an important competitive advantage since these providers can attract and secure more medical tourists searching online for treatment facilities.

The present research applied a computer-assisted quantitative approach, using Leximancer to carry out analyses of medical tourism user-generated content to unlock the motivations and intentions of tourists. This study's results contribute to the quite limited literature on Western medical tourism by identifying the key attributes and characteristics of tourist reviewers in the medical tourism field, especially in reference to their preferences, gender, country of origin, and country of treatment. These findings can help medical tourism managers, marketers interpret what constitutes good customer service as described by those who experience it, and what are the most relevant demographic attributes to use when addressing market segmentation. For example, while men value the lower cost of medical treatments, women, who constitute the great majority of the cosmetic surgery market (Ackerman, 2016), are more willing to recommend a treatment if they feel happy with the results.

To conclude, the present study assessed in detail the attributes of medical tourism and perceived service quality in this niche. The results, in turn, will allow researchers to identify more appropriate measurement items and investigate more thoroughly the role of these service quality constructs in international medical tourists' decision-making processes.

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