



Araştırma Makalesi (Research Article)

**BIBLIOMETRIC ANALYSIS OF THE LAST DECADE IN THE DESTINATION SELECTION  
OF MEDICAL TOURISTS FOR THE MEDICAL TOURISM MARKETING MANAGEMENT  
(2012-2021)**

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**Özet**

Medikal turizm araştırmacılarının, araştırmalarını daha etkili bir şekilde ele almak için medikal turizm destinasyonları ile ilişkilendirmeleri bir gerekliliktir. Bu makalenin amacı, medikal turizm destinasyonlarını ve medikal turizm pazarlaması ortamlarında medikal turist olarak hastalar üzerindeki etkilerini araştıran medikal turizm çalışmalarını incelemektir. Bu makale, medikal turizm destinasyonu ve hasta destinasyon seçimlerini dikkate alan medikal turizm araştırmalarında yayınlanmış akademik literatürün bibliyometrik incelenmesini kapsamaktadır. Bibliyometrik analizlerde önceki çalışmaların analitik çerçevesini oluşturmak için anahtar kelimeler Ocak 2022'de geliştirmeye başlanmıştır. Ardından MeSH terimlerini kullanarak Web of Science'da bir pilot arama yapılmıştır. Medikal turistlerin medikal turizm pazarındaki destinasyon seçimlerini belirlemek için Web of Science (WoS) Core Collection'da Boolean araştırması da yapılmıştır. Son olarak, konuyla ilgili destinasyon araştırmasında bilgi üretimindeki kalıpları ve alta yatan ağ bağlantılarını belirlemek için bibliyometri ve VOSviewer adlı bir veri görselleştirme yazılımı kullanarak sonuçları analiz edilmiştir. Bulgular; medikal turizm araştırmasının dikkate değer bir bölümünün, medikal turizm destinasyonunu ve hasta destinasyon seçimlerini dikkate alan konuları açıkça ele aldığını göstermektedir. Medikal turizm pazarında medikal turistlerin destinasyon seçimi konusunu ele alan toplam 503 yazar, 173 farklı yayın kaynağı üzerinden yayınlanmış makaleler kaleme almıştır. Bu konuda en fazla araştırma yapan ülkeler ise ABD, İngiltere, Avustralya, Türkiye ve Malezya olmuştur. Bu makale, medikal turizm destinasyonu ve hasta destinasyon seçimlerini dikkate alan medikal turizm araştırmalarında yayınlanmış akademik literatürün bibliyometrik incelemesini içermektedir. Bu bibliyometrik analiz, güncel araştırma alanlarına odaklanan medikal turizm pazarlama araştırmacıları için değerli olabilir. Küresel medikal turizm pazarında rekabet avantajı elde etmek için stratejiler uygulamak isteyen uygulayıcılar için de faydalı olacağı düşünülmektedir.

**Anahtar Kelimeler:** Medikal turizm, Sağlık turizmi, Sağlık turizmi, Destinasyon araştırması, Bibliyometrik, Destinasyon seçimi.

**Abstract**

It is a necessity that medical tourism researchers connect their research with medical tourism destinations to better understand and better effectively address them. The purpose of this paper is to examine the medical tourism studies that have investigated medical tourism destinations and their effects on patients as medical tourists in medical tourism marketing settings. This article extends a bibliometric review of published academic literature in medical tourism research that considers the medical tourism destination and patient destination choices. We began to develop the keywords for using the analytical framework of previous studies for bibliometrics analyses in January 2022. Then we conducted a pilot search in Web of Science using MeSH terms. A Boolean search of the Web of Science (WoS) Core Collection was performed to identify the medical tourists' choice of destinations research on the medical tourism market. Finally, we analyzed the results using bibliometrics and a data visualization software called VOSviewer to identify patterns in knowledge production and underlying network linkages in destination research on the subject. Our findings suggest that a notable part of medical tourism research explicitly addresses that consider the medical tourism destination and patient destination choices. A total of 503 authors have written articles published through 173 different publication sources that deal with the topic of destination selection of medical tourists in the medical tourism market. The countries that have done the most research on this subject have been the USA, England, Australia, Turkey, and Malaysia. This article extends a bibliometric review of published academic literature in medical tourism research that considers the medical tourism destination and patient destination choices. This bibliometric analysis is valuable for medical tourism marketing researchers who focus on generation research areas and useful for practitioners who desire to implement strategies to achieve a competitive advantage in the global medical tourism market.

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**Keywords:** Medical tourism, Health tourism, Healthcare tourism, Destination research, Bibliometric, Destination choose.

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## Introduction

Researchers define medical tourism as traveling to receive medical treatment from the home country to another (Connell, 2006; Jagyasi, 2009). Therefore, medical tourism is generally referred to as individuals traveling outside the country in which they reside to receive preventive, curative, rehabilitative, health-promoting, or any combination of these highlighted services (Tontuş, 2015).

Patients traveled to Europe and the U.S. from developing countries for medical treatment in the 18th to the 20th century. This means that traveling abroad for quality health services and well-being is not new. But this trend reversed in the late 20th and 21st centuries because people from developed countries started to travel to developing countries for medical treatments because of the globalization of communication and transportation technologies (Demir, 2020; Fetscherin & Stephano, 2016; Han, 2013; Heung, Kucukusta, & Song, 2011; Sağ, Zengul, & Avcı, 2022).

Medical tourism, a niche area of tourism marketing, is drawing more considerable attention in the world by day (Hume & DeMicco, 2007). Medical tourism is an estimated 100 billion dollar industry (Fetscherin & Stephano, 2016). The recent report by VISA and Oxford Economics indicates that 11 million individuals travel abroad each year to receive medical service. Furthermore, it is expected that the medical tourism sector will continue to grow by 25% annually for the next ten years. Their reports estimate that 3% to 4% of the world's population currently travel abroad to receive medical treatment (OXFORDECONOMICS, 2016; VISA, 2016).

Countries and companies want to develop medical tourism, from which they earn significant tourism income. According to Saadatnia and Mehregan (2014), only a few hospitals and countries were promoting themselves as medical tourism destinations ten years ago. Still, today hundreds of hospitals and over thirty countries are promoting themselves as medical tourism destinations. An increasing number of people, companies, and countries are involved in medical tourism by day (Fetscherin & Stephano, 2016). As a result, the international medical tourism market is rapidly expanding (Connell, 2013). The considerable growth of the medical tourism sector gives rise to international medical tourism market competition for medical tourists among destination countries (MTA, 2018 ). One of the concerns for destination countries is attracting new medical travelers through marketing and motivating them to make purchases in such an increasingly competitive environment (Han & Hyun, 2015).

Even as many medical tourism practitioners and countries are focusing on destination marketing in their regions, many initiatives have failed to sufficiently achieve their goals. Destination Selection of medical tourists on the medical tourism market is an important competitive factor and should be understanding what factors infuse the choosing a particular country for medical tourism. Hanefeld, Lunt, Smith, and Horsfall (2015) mention that distance, costs, expertise, and availability of treatment all were factors influencing patients' decision to choose of destination and Further, informal networks, including web fora, personal recommendations, and support groups infuse to patients' decision to choice of destination. According to Sag and Zengul (2019);

- Medical tourists evaluate potential destinations based on pre-developed judgment or their previous experiences,
- Medical tourists tend to have a high sensitivity of demand toward the desired procedure, mainly due to the external factors,
- Medical tourism market segmentation generates a positive effect on the target market.

It is necessary that medical tourism researchers connect their research with medical tourism destinations to better understand and effectively address them.

Bibliometric is a method that gives clues about the scientific communication of the relevant field by examining and analyzing some features of journals, documents, or other printed publications with mathematical and statistical techniques (Osareh, 1996). Although there are studies in bibliometric analysis in the field of health marketing (Çiçek & Kozak, 2012; Özel & Kozak, 2012) and medical tourism (Oğuzbalaban, 2019; Temizkan, Çiçek, & Özdemir, 2015; Virani, Wellstead, & Howlett, 2020) in the literature, No bibliometric analysis study was found in the destination selection of medical tourists for the medical tourism market.

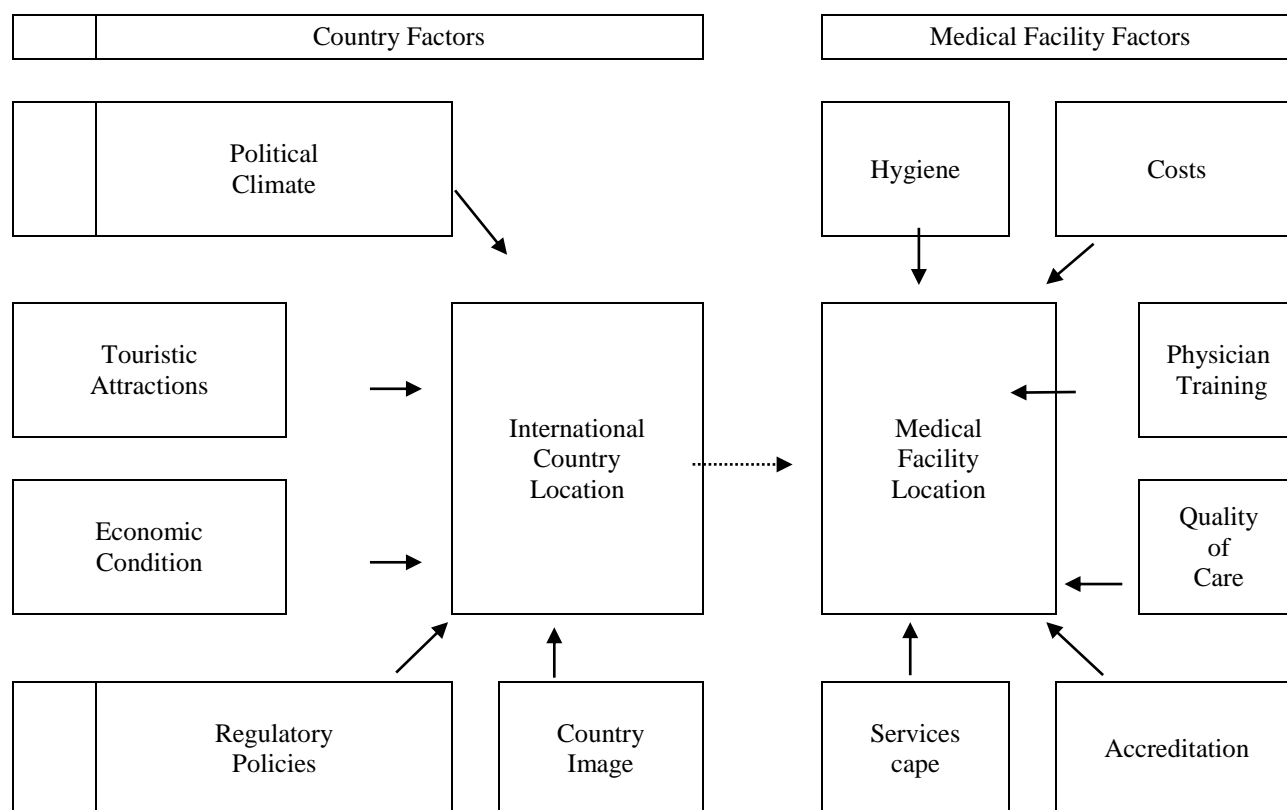
The purpose of this paper is to examine the medical tourism studies that have investigated medical tourism destination and their effects on patients as medical tourists in medical tourism marketing settings. This article

extends a bibliometric review of published academic literature in medical tourism research that considers the medical tourism destination and patient destination choices between the years 2012-2022.

## Analytical Framework

We benefited two figures from literature to understand medical tourists' choice of destinations in our bibliometric review of published academic literature in medical tourism research (Heung, Kucukusta, & Song, 2010; Smith & Forgione, 2007).

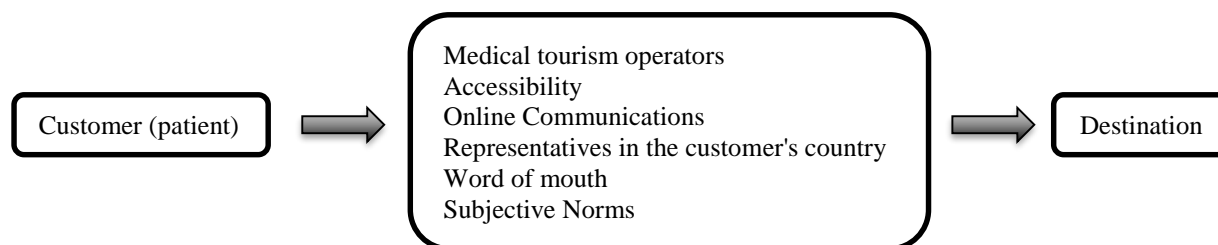
**Figure 1. Factors That Affect the Choice of Medical Facilities and Destinations**



**Reference: Adopted from (Smith and Forgione, 2007)**

As Figures 1 and 2 show, we used a combination of the conceptual framework. Based on the first model in figure 1, medical tourists select a destination by taking into consideration country factors and medical facility factors such as economic conditions, political climate, regulatory policies, costs, physician training, quality of care, and accreditations. The second model contains medical tourism operations, accessibility, online communications, a representative in the customer's country, word of mouth, and subjective norms in figure 2.

**Figure 2. The Choice of Destinations**



**Reference: Adopted from (Caballero-Danell and Mugomba, 2007; Hudson, Thal, Cárdenas, & Meng, 2017).**

## Methods

We began to develop the keywords for using the analytical framework of previous studies for bibliometrics analyses in January 2022. This database has more than 20,000 referees and is considered a reliable collection of high quality journals, book chapters and conference proceedings (Karasözen, Bayram, & Burcu, 2011;

Öztürk & Kurutkan, 2020). Then we conducted a pilot search in Web of Science by using MeSH terms. A Boolean search of the Web of Science (WoS) Core Collection was performed to identify the medical tourists' choice of destinations research on the medical tourism market. We analyzed the results by using a bibliometric packet R program and a data visualization software called VOSviewer to identify patterns in knowledge production and underlying network linkages in destination research on the subject (Aria & Cuccurullo, 2017; Van Eck & Waltman, 2010).

**Figure 3: Key Word Combinations**

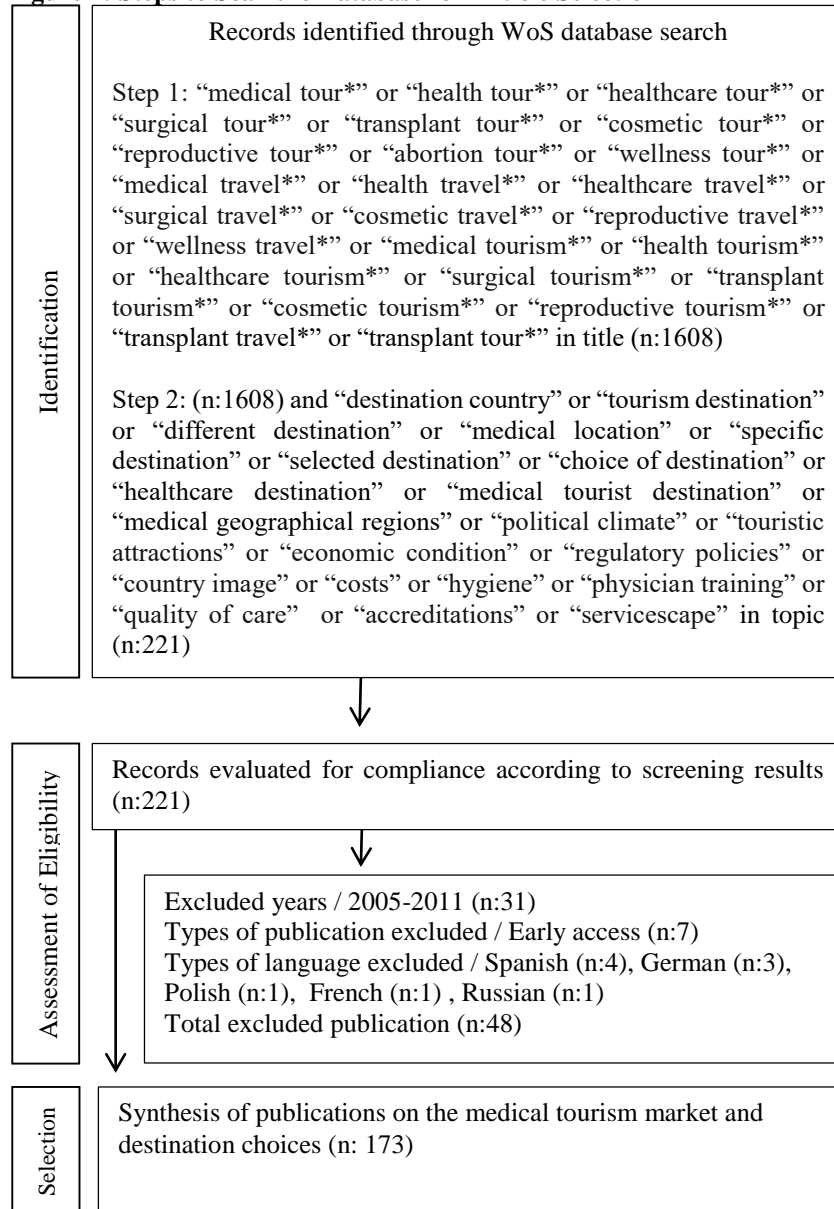
First- Steps Permanent keywords	Second-Steps Keywords
medical tour health tour healthcare tour surgical tour transplant tour cosmetic tour reproductive tour abortion tour wellness tour medical travel health travel healthcare travel surgical travel cosmetic travel reproductive travel wellness travel	destination country medical tourism destination different destination medical location specific destination selected destination choice of destination healthcare destination medical tourist destination medical Geographical Regions political climate Touristic Attractions Economic Condition regulatory policies Country Image Costs Hygiene physician training quality of care accreditations servicescape

Figure 4 shows the steps to scan the database and provides details of the publication selection processes. After we conducted our first pilot search using Web of Science, we decided to use first-level keyword combinations (figure 3) including, medical tour, health tour, healthcare tour, surgical tour, transplant tour, cosmetic tour, reproductive tour, abortion tour, wellness tour, medical travel, health travel, healthcare travel, surgical travel, cosmetic travel, reproductive travel, wellness travel. We also used several keyword combinations in the second level (figure 3) including, destination country, medical tourism destination, different destination, medical location, specific destination, selected destination, choice of destination, healthcare destination, medical tourist destination, medical Geographical Regions, political climate, Touristic Attractions, Economic Condition, regulatory policies, Country Image, Costs, Hygiene, physician training, quality of care, accreditations, and servicescape.

Our work is covered by all publications ( journal articles, reviews, books and book chapters, conference proceedings, editorial material) except for short surveys, conference reviews, errata, bibliographies, reprints, book reviews, and news articles, letters, meeting abstracts. In order to avoid terminological incompatibility during the analysis, other research papers in non-English were excluded from the scope of the study.

We performed through WoS database search with first-level keywords, initial results identified as 1608 articles. After the elimination of 1608 articles with the second level key words performed with WoS database search, results returned 221 articles. We then removed total 48 articles based on exclusion and inclusion criteria of articles (excluded years / 2005-2011 (n =31); types of publication excluded / early access (n = 7); Types of language excluded / Spanish (n = 4), German (n = 3), Polish (n = 1), French (n = 1), Russian (n = 1)). Finally, we retained 173 articles for analysis (Figure 4).

**Figure 4: Steps to Scan the Database for Article Selection**



The ethics committee approval is not required because the data for the research was obtained from a public database.

## Results

The main information about publications' data of the last decade referring to destination selection of medical tourists in the medical tourism market was finally listed in Table 2. A total of 173 articles were obtained. These 173 articles consist of research articles (118), book Chapter (6), article proceedings paper (1), editorial material (2), proceedings paper (31), and reviews (15). The average citations per document are 11.23. Documents per author are 0.34, and co-authors per document are 3.39.

**Table 1. Main Information about Data**

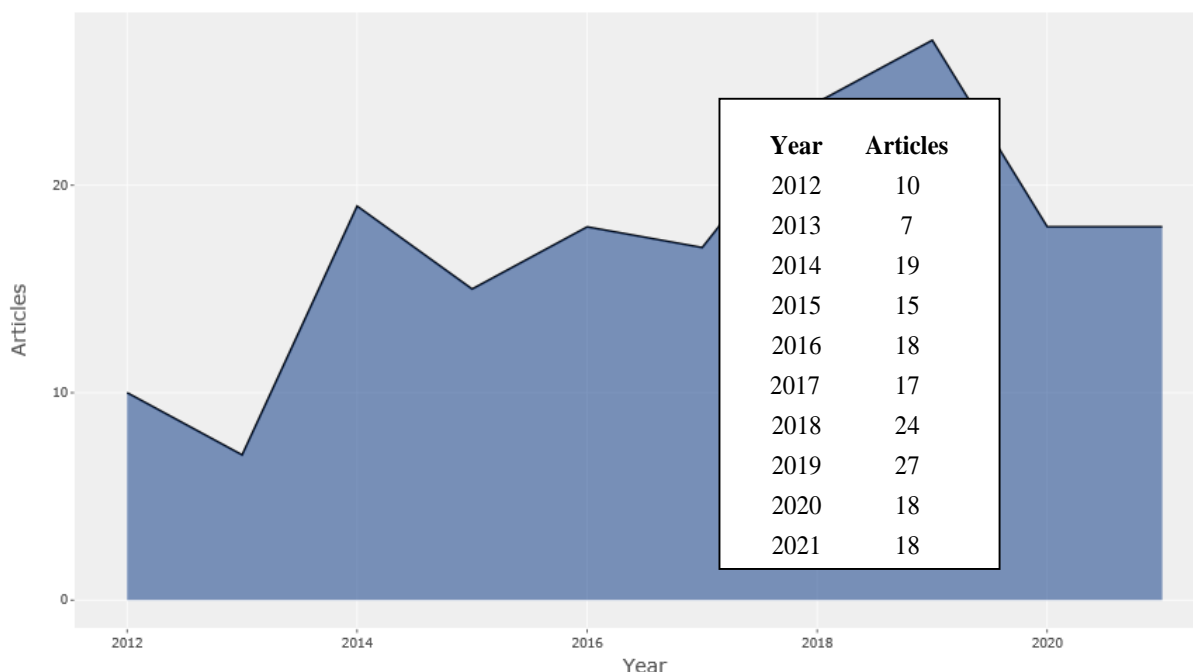
<b>Description</b>	<b>Results</b>
Timespan	2012:2021
Sources (Journals, Books, etc)	127
Documents	173
Average years from publication	4,88
Average citations per documents	11,23
Average citations per year per doc	1,76
References	5933
DOCUMENT TYPES	
Article	118
Article; Book Chapter	6
Article; Proceedings Paper	1
Editorial Material	2
Proceedings Paper	31
Review	15
DOCUMENT CONTENTS	
Keywords Plus (ID)	331
Author's Keywords (DE)	530
AUTHORS	
Authors	503
Author Appearances	586
Authors of single-authored documents	21
Authors of multi-authored documents	482
AUTHORS COLLABORATION	
Single-authored documents	22
Documents per Author	0,34
Authors per Document	2,91
Co-Authors per Documents	3,39
Collaboration Index	3,19

As seen in Figure 5, the number of articles published generally tends to increase according to 2013. The highest number of articles was reached in 2019, with 27 articles. The annual number of articles was 18 in 2020 and 2021. The COVID-19 pandemic started in 2019. So the number of articles regressed with COVID-19 pandemics.

According to analysis in the WoS database, the top 10 most cited articles about the destination selection of medical tourists for the medical tourism market between 2012 and 2021 were listed in table 2.

The article "Customer retention in the medical tourism industry: Impact of quality, satisfaction, trust, and price reasonableness" published by Han and Hyun (2015) was the most cited study in WoS on the destination selection of medical tourists for the medical tourism market. Han and Hyun (2015) collected data at five medical clinics in two metropolitan cities in Korea. They developed a model in their study that explains international medical travelers' intention formation by considering the impact of quality, satisfaction, trust, and price reasonableness. Besides the theoretical model offered, the study also involved several important findings:

**Figure 5. Annual Scientific Production**



1. The impact of perceived medical quality on satisfaction, trust, and intentions was greater than perceived service quality.
2. Quality components and trust factors are vital in tourists' decision formation.
3. The satisfaction indirectly affected the intention to revisit the clinic and Korea for medical care through trust in the staff and the clinic.
4. Similar levels of medical quality, patient customers with high perceptions of price appropriateness are more likely to be satisfied (Han & Hyun, 2015).

The second cited study is "The medical tourism index: Scale development and validation," published by Fetscherin and Stephano (2016). This medical tourism index scale focuses on the factors that are mainly related to the medical tourism destination, such as healthcare costs, popular tourist destinations, quality care, accreditation, the reputation of doctors. This scale consists of under four dimensions tourism, medical costs, country, medical facilities, and services. This scale provided a platform for countries that can be measured their medical tourism destination's attractiveness (Fetscherin & Stephano, 2016).

Third cited study is "Why do medical tourists travel to where they do? The role of networks in determining medical travel" (Hanefeld et al., 2015). The research data was gathered in the United Kingdom by in-depth interviews with returning medical tourists (77) and over sixty managers, medical travel facilitators, clinicians, and providers of medical tourism in recipient countries. The findings were gathered in 3 main dimensions motivations for treatment and travel, motivations for specific treatment types, choosing a provider, the importance of networks. According to this research, choice of destination and provider was largely the result of informal networks, including web fora, personal recommendations, and support groups. But the research underlines the other factors (distance, costs, expertise, and availability of treatment all) to influence patients' decision to travel (Hanefeld et al., 2015).

Another article published by Hanefeld, Horsfall, Lunt, and Smith (2013) is the fourth cited article titled "Medical tourism: A cost or benefit to the NHS?" The research includes very dense information and data analysis about United Kingdom patients who received care and planned to receive care abroad. According to results, patients returning from treatment abroad have experienced complications. But the majority of U.K. patients travel within Europe, and an increasing number are seeking treatment in other countries. U.K. patients generally choose to take healthcare abroad because of costs and savings. People who traveled into the U.K. for medical treatment gathered under three mean titles: fertility tourism, cosmetic tourism, and bariatric surgery (2000–2010). The research indicated that £42 million of 18 hospitals' total income was from non-UK resident patients. This approximately 25% of private income consisted of medical tourists (Hanefeld et al., 2013).

**Table 2. Top 10 Most Cited Publications Worldwide**

<b>Publication and DOI</b>	<b>Total Citations</b>	<b>T.C. per year</b>	<b>Normalized T.C.</b>
Customer retention in the medical tourism industry: Impact of quality, satisfaction, trust, and price reasonableness, 10.1016/j.tourman.2014.06.003, (Han & Hyun, 2015)	234	29.25	7.66
The medical tourism index: Scale development and validation, 10.1016/j.tourman.2015.08.010, (Fetscherin & Stephano, 2016)	99	14.14	6.43
Why do medical tourists travel to where they do? The role of networks in determining medical travel, 10.1016/j.socscimed.2014.05.016, (Hanefeld et al., 2015)	84	10.51	2.75
Medical tourism: A cost or benefit to the NHS?, 10.1371/journal.pone.0070406, (Hanefeld et al., 2013)	67	6.71	2.79
What do we know about medical tourism? A review of the literature with discussion of its implications for the U.K. national health service as an example of a public health care system, 10.1111/jtm.12147, (Hanefeld et al., 2014)	61	6.77	4.58
The unwritten price of cosmetic tourism: An observational study and cost analysis, 10.1016/j.bjps.2011.07.027, (Miyagi et al., 2012)	42	3.81	2.71
Multistate U.S. outbreak of rapidly growing mycobacterial infections associated with medical tourism to the Dominican republic 2013–2014, 10.3201/eid2208.151938, (Schnabel et al., 2016)	40	5.71	2.59
Intention to visit Malaysia for medical tourism using the antecedents of theory of planned behaviour: A predictive model, 10.1002/jtr.2120, (Seow et al., 2017)	39	6.50	2.77
Competitiveness attributes of a medical tourism destination: The case of South Korea with importance-performance analysis, 10.1080/10548408.2016.1182454, (Junio et al., 2017)	36	6	2.56
A qualitative analysis of Singapore's medical tourism competitiveness, 10.1016/j.tmp.2016.12.002, (Ganguli & Ebrahim, 2017)	35	5.83	2.48

The fifth cited article is "What do we know about medical tourism? A review of the literature with a discussion of its implications for the U.K. National Health Service as an example of a public health care system" (Hanefeld, Smith, Horsfall, & Lunt, 2014). This research focuses on the medical tourism publications that cover the primary data (interviews, surveys, analysis of datasets collected and obtained by authors), literature reviews of medical tourism websites, promotional materials, papers drawing on secondary sources, overview articles. This literature review provides the most comprehensive overview of knowledge on medical tourism until the time March 2012. Papers were examined according to the region the research investigated, push and pull factors determining patients' decision to travel, refer to a group of tourists classified as diaspora, risks for patients, effects on recipient country's health system, medical tourism industry, number of people traveling (Hanefeld et al., 2014).



Miyagi, Auberson, Patel, and Malata (2012) characterized the cosmetic tourism patients and evaluated costs in their research paper titled "The unwritten price of cosmetic tourism: An observational study and cost analysis" and the sixth most cited work. This observational study was conducted on patients presenting to a tertiary referral plastic surgery practice with complications of cosmetic tourism surgery. The data was gathered from nineteen patients who operated from primary breast augmentation procedures, and most of the operations were performed in Europe or Asia. These nineteen patients' principal complications generally were wound infection or dehiscence and poor cosmetic results. The authors' most prominent inference of the research is The United Kingdom National Health Service (NHS) has paid considerable costs to manage the complications of cosmetic tourism and was continuing to pay huge prices to manage the complications of cosmetic tourism (Miyagi et al., 2012).

The seventh cited article is "Multistate U.S. outbreak of rapidly growing mycobacterial infections associated with medical tourism to the Dominican Republic" (Schnabel et al., 2016). This article is about the infectious diseases which carry by medical tourists operating abroad. This research was started by the Maryland Department of Health and Mental Hygiene in Baltimore, MD, USA, after receiving reports of 2 Maryland residents whose surgical sites were infected with rapidly growing mycobacteria after cosmetic procedures in the Dominican Republic. Twenty-one case patients in 6 states who had surgery in Dominican Republic clinics were investigated. Solates from 12 (92%) of those patients were culture-positive for *Mycobacterium abscessus* complex. According to the main conclusion of this study, infectious diseases that are carried by medical tourists should be considered by healthcare providers, healthcare tourists, and all the countries' health system managers.

Eight cited article is "Intention to visit Malaysia for medical tourism using the antecedents of Theory of Planned Behaviour: A predictive model" (Seow, Choong, Moorthy, & Chan, 2017). The study focus on the extended model of the Theory of Planned Behaviour in predicting tourists' intention in seeking medical tourism. The sample is collected from 380 questionnaires in Malaysia, and a structural equation modeling analysis was performed for model testing. The findings of this study show that;

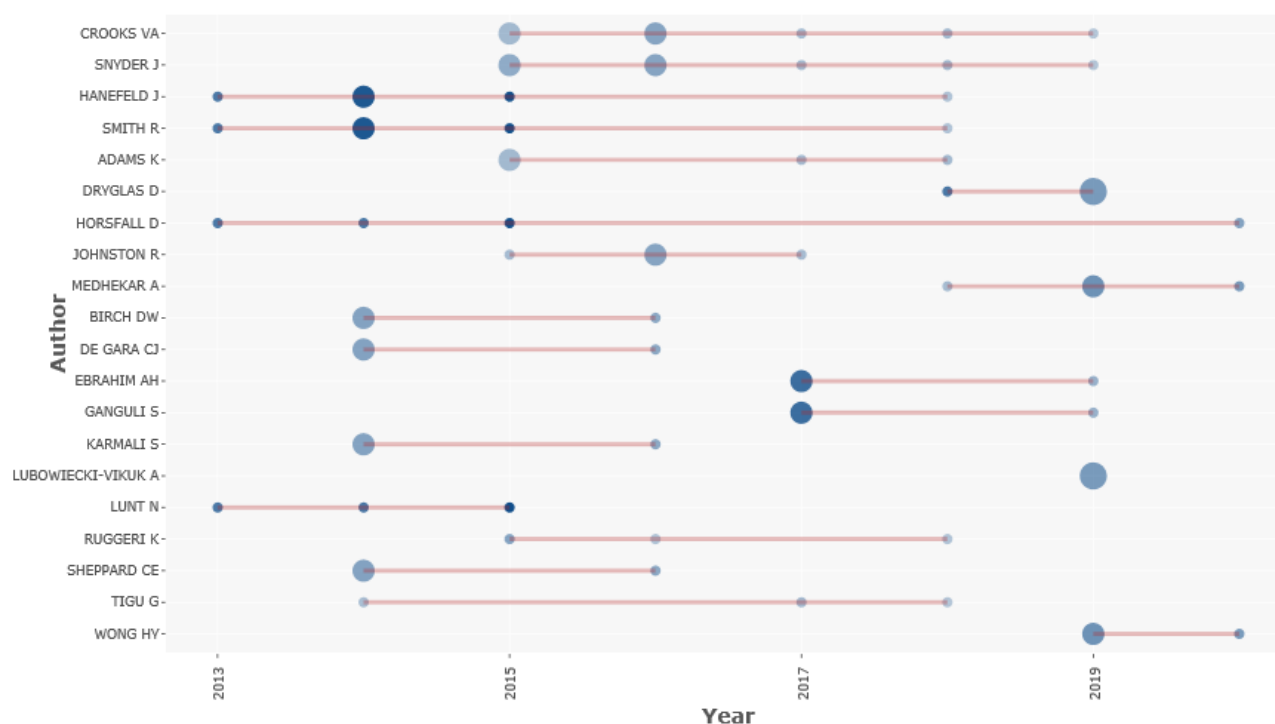
- The perceived benefits and perceived costs are significantly related to attitude
- the resource availability is significantly associated with perceived behavioral control
- The attitude and subjective norm are significantly associated with the intention for medical tourism.
- The perceived behavioral control is insignificant to intention.
- Attitude and subjective norm are also significantly related to intention for medical tourism.
- The perceived behavioral control is not insignificant related to intention (Seow et al., 2017).

The ninth cited article is "Competitiveness attributes of a medical tourism destination: The case of South Korea with importance-performance analysis" (Junio, Kim, & Lee, 2017). This study examined the performance of medical tourism destination competitiveness in South Korea. The empirical data was collected from stakeholders (331) on the perceptions of the medical tourism industry in South Korea. The analyses show that medical tourism destination competitiveness is primarily influenced by medical treatments and services, destination attributes, and tourism-specific factors. This study contributed to the literature on medical tourism destination competitiveness with marketing insights.

The last one is "A qualitative analysis of Singapore's medical tourism competitiveness" (Ganguli & Ebrahim, 2017). This case study analyzed the factors that position Singapore as a competitive medical tourism destination. They examined Singapore's competitive medical tourism activities under seven items as an enabling tourism sector, strategic planning, Public-Private Partnerships, marketing and branding strategies, technology and innovation, human capital development, accreditation, and governance. The study concluded diverse strategies for medical tourism development have led to significant positive outcomes towards the success of healthcare tourism in Singapore.

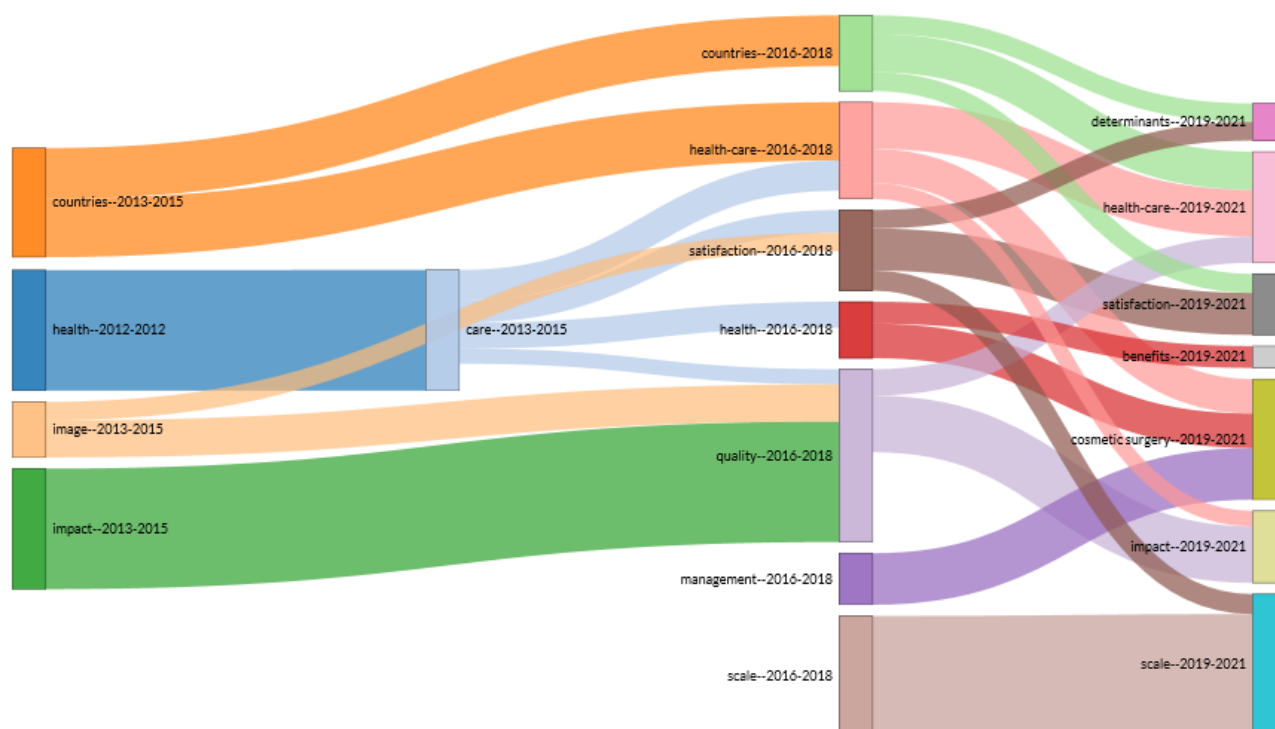
Figure 6 indicates that the citation power of the publications increases when the size and darkness of the round shapes increase. According to this; It is generally seen that there has been an intensity of adaptation in the last ten years (2012-2021) in the literature when considering the production process of the authors on health tourism, the number of publications, and the number of citations they receive. Crooks, Snyder, Hanefeld, and Smith, were found to be the most important authors on this subject, considering the long-term citation power of the research on the destination selection of medical tourists for the medical tourism market.

**Figure 6. Authors' Production Over Time and Publications Specific H-1 Index Levels**



The H-index is a measure that can better reflect the publications important and qualified, comprehensively and cumulatively. To increase the H-index, all studies should continue to be cited proportionally to each other. As seen in figure 6, considering the h-index level of researchers working on health tourism destinations, the most remarkable authors are Crooks, Snyder and Hanefeld.

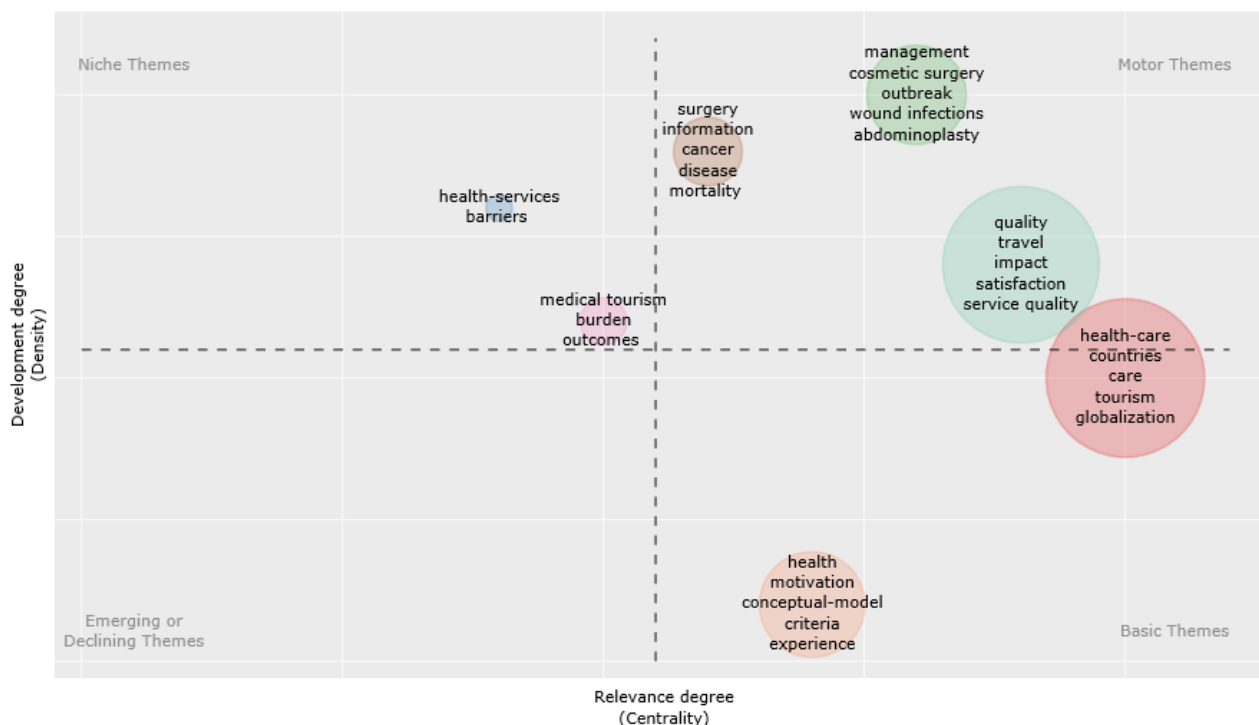
**Figure 7. Thematic Evolution of Keywords Plus by Years**



Keywords Plus is a rich system of words or expressions taken from the titles of the articles that are specific to the Web of Science and cited. In this study, the thematic transformation of Keywords Plus covering the years

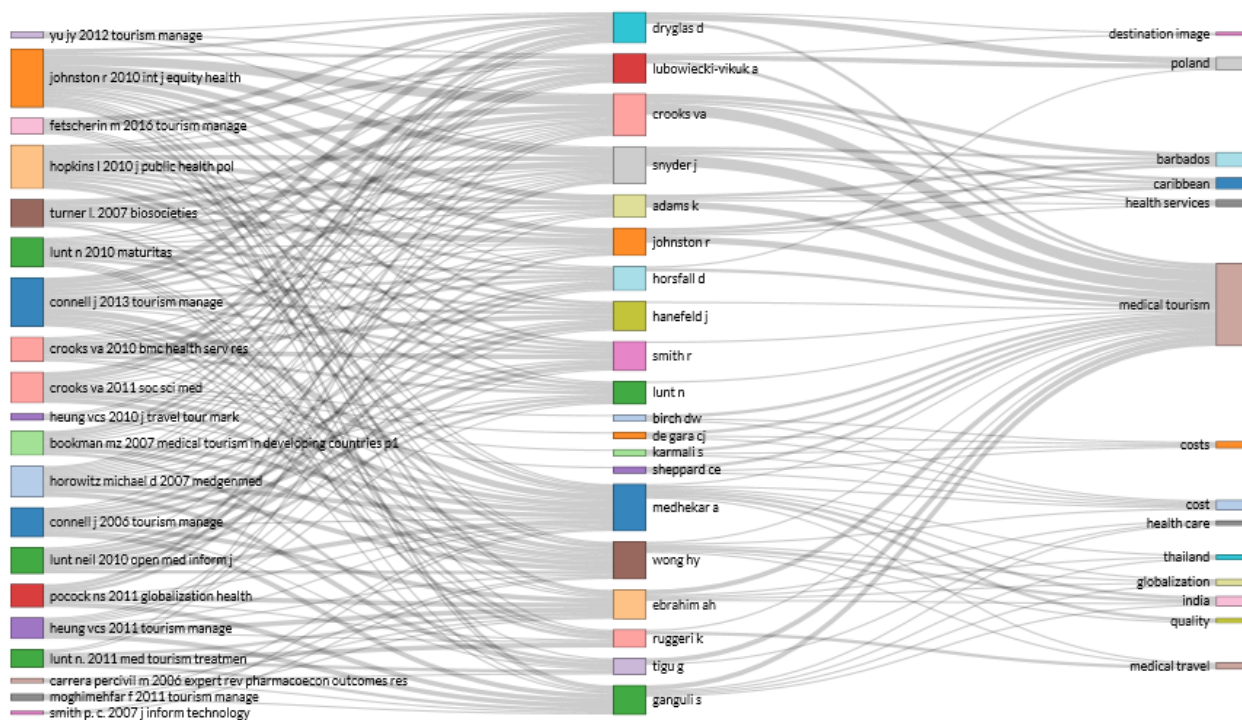
2012-2021 was examined in three periods. According to Figure 7, the concepts of "health" and "health care", which were used extensively in the past years, have turned into different concepts such as "cosmetic surgery" in relation to the expectations of health tourists. Concepts such as "quality", "effect", "satisfaction" and "benefit", which were used more generically in previous years, have begun to be examined in detail with different dimensions. The concepts of "management" and "scale" seem interesting especially for recent researchers.

**Figure 8. Thematic Map of Keywords Plus According to Their Classes**

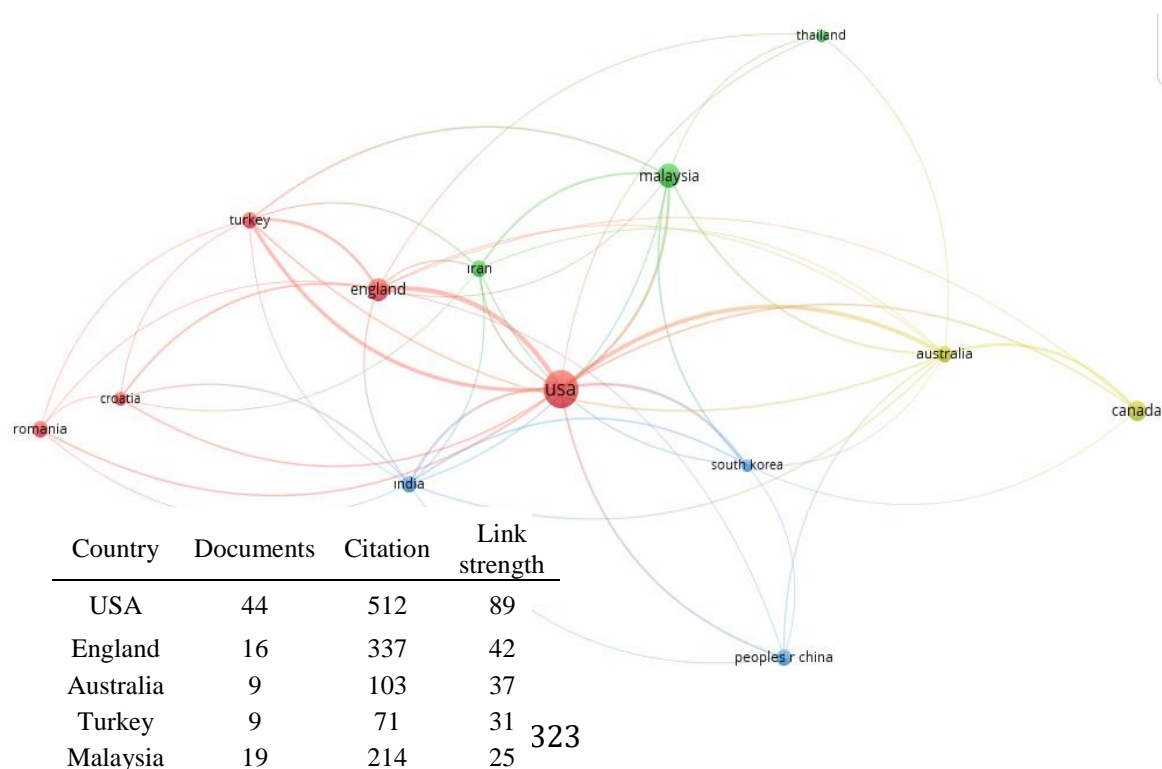


The thematic map which evaluated according to Keywords Plus classes is divided into four parts (Cobo, López-Herrera, Herrera-Viedma, & Herrera, 2012; Gülhan & Kurutkan, 2021; López-Robles et al., 2021). Themes in the top right consists of well-developed concepts that are important for structuring a research field. They are known as “motor themes” for researchers thanks to their strong and high density in the center. The themes in this section are considered to be applicable and externally related to other themes which they are conceptually closely related. This chapter contains important and well-developed themes to shape the research field. In this context. Themes in the upper left section has well-developed interior areas and insignificant exterior areas. These themes are private and environmental in nature. Despite its high density, it represents a lower centrality. Although it is important for the development of the research area, it hasn't developed enough. This section, which is defined as the “main themes”, has a structure that reflects a lower density and a high level of centrality compared to the other sections. It seems that a lot of research has been done on the concepts in the content of these themes. These themes have well-developed interiors. It has significance and need attention in order to form a basis for the research area. Considering the size of the thematic map, we understand other factors under the theme also support each other in interaction with similar concepts. The themes in the lower left section are both poorly developed and more restricted. The themes in this section have low density and low centrality and they represents emerging or diminishing themes. These themes are not only poorly developed, but are of low importance to the research field.

According to the thematic map of research articles that include health tourism destination choices, it is understood that unusual or niche areas are not sufficiently formed in this regard (Figure 8). However, thanks to some studies focusing on concepts such as "barrier," "burden," and "outcomes" for the problems of health tourism, with limited trends, it is trying to move to a special area. Extremely powerful-looking engine themes are surgery, mortality, management, cosmetic surgery, quality, travel, impact, satisfaction. The main themes section of the thematic map are terms that can be used for both health tourists and health care providers (health, motivation, conceptual model, criteria, experience).

**Figure 9. Three-Fields Plot of Authors, References and Keywords**

The diagram of studies on health tourism destinations focusing on the relationships between authors, references and keywords is shown in Figure 9. The analysis shows which authors have done the most work on this subject, which references these authors use the most, and which keywords they use more. According to Figure 9; It is seen that Anita Medhekar, Senior Lecturer in Economics, still working at the Central Queensland University of Australia, and Valorie A. Crooks, Head of Healthcare Geographies Research, still working at Simon Fraser University in Canada, are working hard on these issues. Connell (2013) “Contemporary medical tourism: Conceptualisation, culture and commodification” and Johnston, Crooks, Snyder, and Kingsbury (2010) “What is known about the effects of medical tourism in destination and departure countries? A scoping review” are most referenced resources. The most used keyword in these publications is “medical tourism”. Then, it is seen that destination centers such as “Poland”, “Barbados” and “Caribbean” are among the most used keywords (Figure 9).

**Figure 10. Citation Network and Citation Power of Countries**

The citation strength and citation network were examined according to the countries (Figure 10). 13 countries that published five or more articles were evaluated for the literature to which a total of 44 countries contributed. It is seen that the USA is in the first place with 512 citations and 89 link strengths. The United Kingdom followed the USA with 337 citations and 42 link strengths. Australia is in third place with 103 citations and 37 link strengths. It can be mentioned that there are four different clusters that interact with each other when examining citation analysis visual mapping by country. The size of the circles is directly proportional to the number of countries cited. The size of the circles increases when the number of citations increases. The relationship between the countries that make up the cluster is shown in red, green, yellow, and blue. Influential countries are grouped USA, U.K., Turkey, Croatia, and Romania in the red cluster, Malaysia, Thailand, and Iran in the green cluster, Canada and Australia in the yellow cluster, India, South Korea, and China in the blue cluster.

## **Conclusion and Discussion**

This bibliometric research provides a systematic overview of destination selection in the medical tourism market. It underlines the features, dimensions, collaborations, research points, and advancements of medical tourism destinations by analyzing the most popular journals, documents, or other publications with mathematical and statistical techniques. According to current medical tourism literature, this research is among the first bibliometric analysis to evaluate on destination selection of medical tourists for the medical tourism market. As a result, this study fills a gap in the current medical tourism literature with this aspect.

Articles gathered under three main categories about destination selection of medical tourists for the medical tourism market in this bibliometric analysis. The first one is about the medical tourists' destination selection dimension. For example, Han and Hyun (2015) explain the dimension of international medical travelers' intention formation as quality, satisfaction, trust, and price. Fetscherin and Stephano (2016) focus on the factors that are mainly related to the medical tourism destination (such as healthcare costs, popular tourist destination, quality care, accreditation, the reputation of doctors) under four dimensions ( medical costs, country, tourism, medical facilities, and services). According to Hanefeld et al. (2015), choice of destination and provider was primarily the result of informal networks, including web fora, personal recommendations, and support groups. But he underlines the other factors (distance, costs, expertise, and availability of treatment) to influence patients' decision to travel. These are important for theory and practice because of the marketing mix planning and implementation on destination marketing. Dimensions of the medical tourists' destination selection provide to shape and facilitate medical tourism and the specific segmentation or structure of the market for practitioners and theorists.

The second one is about the medical complications of medical tourists who return to their countries after the operated by abroad. For example, Hanefeld et al. (2013) examined the patients who travel abroad and return with complications and calculated the economic costs of complications experienced by these patients in the United Kingdom. Miyagi et al. (2012) mentioned that The United Kingdom National Health Service (NHS) had paid huge costs to manage the complications of cosmetic tourism. All complications threaten patient safety. But according to research about complications on the patient who operated abroad for health care, the countries obviously consider patient safety and economic costs when they evaluate and recommend a healthcare destination country. The other example is 21 cases of RGM (rapidly growing mycobacteria ) surgical site infections in 6 U.S. states among medical tourists to the Dominican Republic (Schnabel et al., 2016). The outbreak illustrates potential risks for medical tourists and medical tourism destination countries.

For example, the third one is related to competition in medical tourism. For example, Junio et al. (2017) examined the performance of medical tourism destination competitiveness in South Korea. The medical tourism destination competitiveness is primarily influenced by medical treatments and services, destination attributes, and tourism-specific factors. Ganguli and Ebrahim (2017) reveal the factors that position Singapore as a competitive medical tourism destination. Singapore's competitive medical tourism activities gather under seven items as an enabling tourism sector, strategic planning, Public-Private Partnerships, marketing and branding strategies, technology and innovation, human capital development, accreditation, and governance. The considerable growth of the medical tourism sector is causing fierce competition for medical tourists among countries. Due to the increasing competition in medical tourism, countries are exploring strategies to improve their global medical tourism market share. Developing an effective strategy requires a better understanding of medical tourists' destination selection for the medical tourism market, especially for emerging countries.

One of the remarkable results is COVID-19 which rapidly changes living conditions and life standards so people's daily routine life was in powerful uncertainty in the last two years. According to analyses, the number

of yearly articles on the destination selection of medical tourists for the medical tourism market regressed from 27 articles to 18 with Covid 19 pandemics proses. This can be explained as the medical tourism industry being fragile to local or global risks and complexities because of its very nature.

## Study Limitations

This bibliometric study has some shortcomings. Our research is limited by the inherent weaknesses of a keyword-based bibliometric analysis. In this study, which was conducted with the data obtained on January 20, 2022, publications after 2022 were not included. Indexes other than the WoS database and publications other than English were not included in the publications selected for analysis. It can be suggested that make more comprehensive analyzes by expanding the types of publications, languages, and indexes for destination selection of medical tourists for the medical tourism market to researchers who want to do similar studies in the future.

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