INVESTIGATION OF MEDICAL TOURISM IN TURKEY THROUGH SWOT-ANP

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ABSTRACT

Medical tourism is a niche area with full of opportunities and a high added value. Many countries and healthcare institutions have realized its fundamental role and have started to develop relevant strategies. Strategies for medical tourism cover high-quality service delivery, facilitating structural reforms, infrastructure arrangements, as well as promotional and marketing activities. Like many countries, Turkey is also interested in medical tourism. Moreover, it is one of the theming topics of the "10th Development Plan 2014-2018. This strategic plan covers four strategies for medical tourism, but the importance of these strategies is still uncovered. Therefore, it is essential to assess these strategies and to prioritize the selected ones for eliminating the uncertainty. It is always imperative to analyze strengths, weaknesses, opportunities, and threats accurately to identify an effective strategy. Hence, this study aimed to analyze Turkey's current situation regarding medical tourism and to select the most appropriate strategy among the specified ones. Twenty field experts were interviewed in the scope of the study, including obtaining the views of all stakeholders of the medical tourism sector. In this context, the Analytical Network Process (ANP) method was integrated into the SWOT analysis; thus, the most suitable strategy for Turkey's medical tourism was able to be determined. Overall, the results revealed that "Development of institutional and legal infrastructures for medical tourism" was determined as the most critical strategy (34.99%). It was followed by "Improvement of physical and technical infrastructures for medical tourism" (24.67%), "Effective promotion and marketing" (20.47%), and "Improving the quality of medical tourism facilities" (19.87%), respectively.

Anahtar Kelimeler: Medical Tourism, Strategy, Decision-Making, SWOT Analysis, ANP

TÜRKİYE'DE MEDİKAL TURİZMİN SWOT-ANP İLE İNCELENMESİ

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ÖZ

Medikal turizm, fırsatları ve katma değeri yüksek niş bir alandır. Birçok ülke ve sağlık kuruluşu bu durumu fark etmiş, dahası bu alana yönelik stratejiler geliştirmeye başlamıştır. Medikal turizm stratejileri; kaliteli hizmet sunumunu, yapısal reformları, altyapı düzenlemeleri ile tanıtım ve pazarlama faaliyetlerini kapsamaktadır. Türkiye de birçok ülke gibi medikal turizme ilgi duymaktadır. Dahası konu, "10. Kalkınma Planı 2014-2018" in tema başlıklarından birisidir. Hazırlanan plan medikal turizme dair dört stratejiyi kapsamakla birlikte, bunların önem düzeyleri tam olarak belli değildir. Bu nedenle, belirlenen stratejileri değerlendirmek ve önem düzeylerindeki belirsizliği ortadan kaldırmak amacıyla seçilen stratejileri kendi arasında önceliklendirmek önemlidir. Etkili bir strateji belirlemek için, güçlü yönleri, zayıf yönleri, fırsatları ve tehditleri doğru bir şekilde analiz etmek gereklidir. Dolayısıyla, bu çalışma Türkiye'nin medikal turizme ilişkin mevcut durumunu analiz etmeyi ve belirlenen stratejiler arasından en uygun olanı seçmeyi amaçlamıştır. Bu amaca ulaşmak için, çalışma kapsamında medikal turizm sektörünün tüm paydaşlarının görüşlerinin alınması amacıyla 20 kişilik bir uzman grubuyla yüz yüze görüşmeler yapılmıştır. Bu kapsamda, oluşturulan SWOT analizine Analitik Ağ Süreci (AAS) yöntemi entegre edilmiş ve bu sayede Türkiye için medikal turizme dair en uygun strateji belirlenmiştir. Çalışmanın sonuçlarına göre, "Medikal turizme yönelik kurumsal ve hukuki altyapının geliştirilmesi" stratejisi en önemli strateji olarak belirlenmiştir (%34,99). Bu stratejiyi sırasıyla; "Medikal turizm alanında fiziki ve teknik altyapının iyileştirilmesi" (%24,67), "Medikal turizm alanında etkin tanıtım ve pazarlama yapılması" (%20,47) ve "Medikal turizm hizmet kalitesinin artırılması" (%19,87) stratejileri izlemiştir.

Keywords: *Medikal Turizm, Strateji, Karar Verme, SWOT Analizi, AAS*

I. INTRODUCTION

Medical tourism is one of the consequences of globalization and the rapid commercialization of healthcare services (Alsharif et al., 2010). Medical tourism is a globally popular and rapidly growing sector, and that combines the joyful travels and the medical services with potential stresses (Chuang et al., 2014).

The number of tourists traveling in the scope of medical tourism is not known precisely. However, the rapid increase in health expenditures, especially in developed countries, since the beginning of the 21st century is the most important factor driving people to travel to countries where they will pay less for their holidays (Connell, 2006; Sevim and Yildirim, 2018). The rapid growth in medical tourism has attracted the attention of many countries and companies, and all the stakeholders of the sector set new goals for medical tourism in their countries. Within the framework of these goals, various strategies are being developed to have a share in the medical tourism market.

SWOT analysis is a frequently used tool in the strategy development process. In this way, organizations can conduct the analyses of internal and external environments, such as identifying existing strengths and weaknesses, opportunities, and threats in the foreign market, and they can also determine their actual position and competitiveness within the sector (Hill and Westbrook, 1997; Shahabi et al., 2014). Moreover, they can develop plans and strategies maximizing opportunities as well as minimizing the impact of potential threats and weaknesses (Ervural et al., 2018; Yuksel and Dagdeviren, 2007).

However, there are some weaknesses of the SWOT analysis, which is used as a useful strategic planning tool in the strategy formation process. The main weakness of the method is that the weight and impact of alternative strategic criteria cannot be quantitatively determined (Lee et al., 2012; Phadermrod et al., 2019).

Numerous studies have been conducted using the SWOT analysis in the national and international literature regarding the actual statuses and strategies of the countries in the field of medical tourism. However, the superiority of the criteria identified in these studies remains relative to each other. Hence, in this study, the Analytical Network Process (ANP) method was integrated into the SWOT analysis to overcome such a weakness. In this way, the most suitable strategy for Turkey's medical tourism was able to be determined. In addition, this method was used because the importance levels of the factor elements in the classical SWOT matrix is uncertain. Thus, the evaluation of strengths and weaknesses, as well as opportunities and threats - depending on external factors - of Turkey in medical tourism, and prioritization of strategies within the national policy, constitute the ultimate goal of the study.

II. LITERATURE

2.1. Medical Tourism

Bies and Zacharia (2007) define the concept of medical tourism as medical outsourcing that realizes expensive medical procedures at lower costs and avoiding long waiting times. Hall (2012) defines medical tourism as seeking treatment in other countries for some reasons, such as high costs, long waiting times, and the lack of treatment in the home country.

This concept has existed for many years and recently attracted the attention of countries, insurance companies, healthcare institutions, and researchers. It is considered as a kind of tourism that is based on utilizing medical services and covers transportation, accommodation, and many support facilities.

The prominent reason for the emergence of medical tourism can be the fact that the healthcare service needed is either not produced at all or has poor quality in some countries due to lack of technological and qualified human resources.

In the past, medical tourism consisted mostly of the travels of people from developing countries to developed countries, where they could receive healthcare services (Hopkins et al., 2010) at a better quality, rather than benefiting of lower-quality healthcare services in their countries (İlker, 2012; Reddy et al., 2010).

However, medical tourism has recently been realized by patients traveling from developed countries to developing ones to achieve significant cost savings or to avoid long waiting times (Alsharif et al., 2010; Bies and Zacharia, 2007; Loh, 2014; Noree, 2015).

Today, it is frequently observed that citizens of underdeveloped countries travel to developed countries for the types of treatment requiring advanced technologies, which is driven by getting better quality healthcare services (Noree, 2015).

As the costs of healthcare services increase, patients in developed countries seek medical treatment in overseas countries (Connell, 2006). Also, other reasons, such as not being insured or seeking treatments out of the scope of insurance, being deprived of specific procedures in the home country, and specialized skills based on domestic demands (e.g., sex reassignment) may be considered as facilitating mechanisms of medical tourism (Gunes, 2013).

The most important reason for the increasing interest in medical tourism in the last two decades has been increasing health expenditures in developed countries, which has often led to the emergence of patient movement from these countries to underdeveloped or developing countries (Sarantopoulos et al., 2014).

Numerous countries around the world have recognized the need for qualified and cost-effective healthcare services for diverse reasons and the economic magnitude resulting from the constant increase in such a need. These concerns lead the countries, seeking a share in the medical tourism pie, to develop new strategies.

Among strategies for medical tourism, quality service delivery has been highlighted by most countries. Marketing is one of the strategic elements that is continuously emphasized by both governments and the medical tourism industry. Some countries have implemented strategies to support the development of medical tourism through tax incentives. In addition, affiliating with internationally renowned health institutions (such as Mayo Clinic, Johns Hopkins) can also be considered as a strategy to support healthcare institutions regarding medical tourism. It enables consumers to gain confidence and trust while making decisions to get medical services. Such a strategy can result in gaining reputation by the institution or country at the international level.

Turkey has also given priority to medical tourism in the "10th Development Plan 2014-2018," where four strategies were discussed. However, the importance levels of these strategies remain uncertain. It seems crucial to evaluate and prioritize the identified strategies quantitatively. In this way, the importance levels of prioritized strategies, and thus, the most suitable strategy for medical tourism, can be determined.

2.2. SWOT Analysis and Analytical Network Process (ANP) Method

An analysis of the current status of an organization provides useful information to managers about whether the organization is properly managed. One of the most used methods for such an analysis is the SWOT analysis. SWOT analysis is a technique that stands for Strengths, Weaknesses, Opportunities, and Threats. It is one of the most common approaches used by organizations in

strategic planning and decision-making processes (Ajmera, 2017). Internal and external evaluations, such as the functioning of the organization, competitiveness, weaknesses, current position within the sector, and opportunities and threats in the foreign market, can be done through this method (Hill and Westbrook, 1997; Shahabi et al., 2014).

SWOT analysis aims to develop plans and strategies for individuals or organizations to obtain maximum advantage of existing strengths and opportunities while minimizing the impact of potential threats and weaknesses by considering internal and external factors (Ervural et al., 2018; Shahabi et al., 2014; Yuksel and Dagdeviren, 2007).

Current situation analysis can be done by asking appropriate questions, as shown in Figure 1. Future situation analysis is performed following the analyses of internal and external environments. In this way, the desired connection can be established between current and future situations, and future strategies can be planned.

There are some weaknesses of the SWOT analysis, which is used as a useful strategic planning tool in the strategy formation process. The main weakness of the method is that the weight and impact of alternative strategic criteria cannot be quantitatively determined (Al-Refaie et al., 2016; Lee et al., 2012; Phadermrod et al., 2019).

Supportive methods may be needed in a SWOT analysis because of the large number of factors and different importance levels (Acar and Gurol, 2017). Besides, integrating it into the multi-criteria decision-making techniques is a frequently used mehod to facilitate the decision-making process.

When multiple criteria are important in the decision-making process, it can be challenging to choose among the alternatives (Dogan and Onder, 2014). The evaluation of various alternatives and the selection of the most appropriate one require some effort. It may also be necessary to compare these alternatives with different evaluation criteria. Multi-criteria decision-making techniques have been developed to solve such a complex situation (Ozdagoglu, 2013).

Multi-criteria decision-making is defined as an area of operational research that seeks to find the best results among complex scenarios, including various indicators, and conflicting objectives and criteria (Kumar et al., 2017). Multi-criteria decision-making methods are frequently used in the processes of making the most optimal choice among the alternatives considering more than one criterion.

The Analytical Network Process (ANP) was developed by Thomas L. Saaty in 1996 to solve multi-criteria decision-making problems (Saaty, 2004). This method can list criteria and sub-criteria by considering the mutual and interrelated relationships between factors and sub-factors. There are not only the interactions between criteria and alternatives within a cluster but also interactions between clusters (Niemira and Saaty, 2004).

Obtaining the views of more than one expert in generating the ANP model increases the likelihood of a more accurate decision. Experts' views must be combined to maximize the accuracy of the final decision. Group decision helps internal inconsistencies to be settled by eliminating immoderations among experts' decisions. Nominal Group Technique (NGT), Delphi Technique, and Geometric Mean (Saaty, 2008; Saaty and Vargas, 2007) are the three prevalent methods in combining experts' decisions. The geometric mean is perhaps the most commonly used technique to synthesize group decisions into the ANP model.

The final priority value is calculated by multiplying priorities of the alternatives calculated based on criteria and priorities of the criteria calculated based on the binary comparisons of each criterion. The alternative criterion with the highest value is considered as the most suitable alternative.

2.3. Summary of the Literature

Hafizan et al. (2018) reviewed the academic studies for medical tourism policies in Thailand, Turkey, and India. The results of the study revealed that these countries developed policies for medical tourism at local, national, regional, and international levels. They also stated that medical tourism shone in these three countries due to economic reasons, but the economic benefit was not for the advantage of the local population.

Tang and Lau (2017) discussed macroeconomic determinants for Malaysian medical tourism. They concluded that income, price, exchange rate, epidemics (SARS, etc.), security, medical quality, labor, and the structure of medical facilities significantly affected the demands for long-term medical tourism. It should be ensured to lower the prices, to reduce the crime rate, and to increase security to create a center of attraction for medical tourism in Malaysia. Also, the importance of carrying out studies to improve medical quality, human resources, and quality of facilities was emphasized for sustainable economic development.

Gorener (2016) integrated the ANP method into a SWOT analysis. Thus, Turkey's current situation regarding medical tourism was analyzed and examined for possible alternative opportunities. As a result of the study, strengths, weaknesses, opportunities, and threats were calculated as 38%, 30%, 18%, and 13%, respectively. The sub-criteria in the "Opportunities" cluster, "Being a close location to many points, especially Europe, Middle East, Turkic Republics, and North African countries," got 14%, and the sub-criteria in the "Threats" cluster "Increased competition in international markets" got 10%. In the study, it was recommended to develop a strategy considering these factors.

Rezaee and Mohammadzadeh (2016) examined the determinants factors of medical tourism in Iran. As a result of in-depth interviews with 12 experts, the "quality of health care" and "high-level expertise" concepts were expressed as the two most important factors regarding medical tourism in Iran.

Ghanbari et al. (2014) wanted to generate a strategic plan by using a SWOT analysis and the Delphi method to initiate the development of medical tourism in Aywaz, Iran. According to the results of the study, they found 16 strengths and 12 weaknesses with a mean of 2.44 on internal analyses. In addition, they identified 10 opportunities and 10 threats with a mean of 2.80 on external analyses. Strategies identified regarding strengths (S) and opportunities (O) were found to be the most important strategies for the development of medical tourism in Iran.

In their study at 5-star hotels in Greece, Sarantopoulos et al. (2014) demonstrated medical tourism as a way of avoiding the economic crisis for such hotels and examined whether they were willing to invest in this area. They concluded that prestigious hotels were willing to invest in medical tourism with the idea that they would contribute both to themselves and the national economy.

Wu et al. (2014) tried to select the most appropriate medical tourism alliance model for Taiwan. Firstly, they reviewed the literature and conduct interviews with experts. Then, using the Delphi method, the ANP, and the Gray Relational Analysis (GRA), they concluded that the establishment of "Medical Holding Company" would be the most strategically appropriate choice.

Iordache et al. (2013) identified various strategies for medical tourism in Romania. These were incentives, policy-making by the government, encouraging cooperation in the public sector, public and private cooperation, and subsidizing public and private sectors for healthcare services.

Sarwar (2013) evaluated various strategic factors for the development of the medical tourism sector in Malaysia. The study was conducted with 266 people who came to Malaysia for medical treatment. It was stated that service quality was the most important factor for international competitiveness, and

dissemination of success stories was a factor that should be emphasized in the future competition elements.

III. METHODS

The aim of the study was to analyze the current situation of Turkey's medical tourism, to prioritize identified strategies, and to select the most appropriate strategy. In this sense, the Analytical Network Process (ANP) method, which was developed by Thomas L. Saaty to solve multi-criteria decision-making problems, was integrated into the traditional SWOT analysis. SWOT analysis was used to evaluate the current situation of medical tourism, and the ANP method was used to prioritize the identified strategies and to determine the most suitable strategy. The most suitable strategy for Turkey's medical tourism was determined through these methods.

Criteria and sub-criteria were identified using a SWOT analysis. Four criteria in the "10th Development Plan 2014-2018", which was published by the Ministry of Development, were considered to be the national strategy for medical tourism.

Figure 1. SWOT-ANP Structure
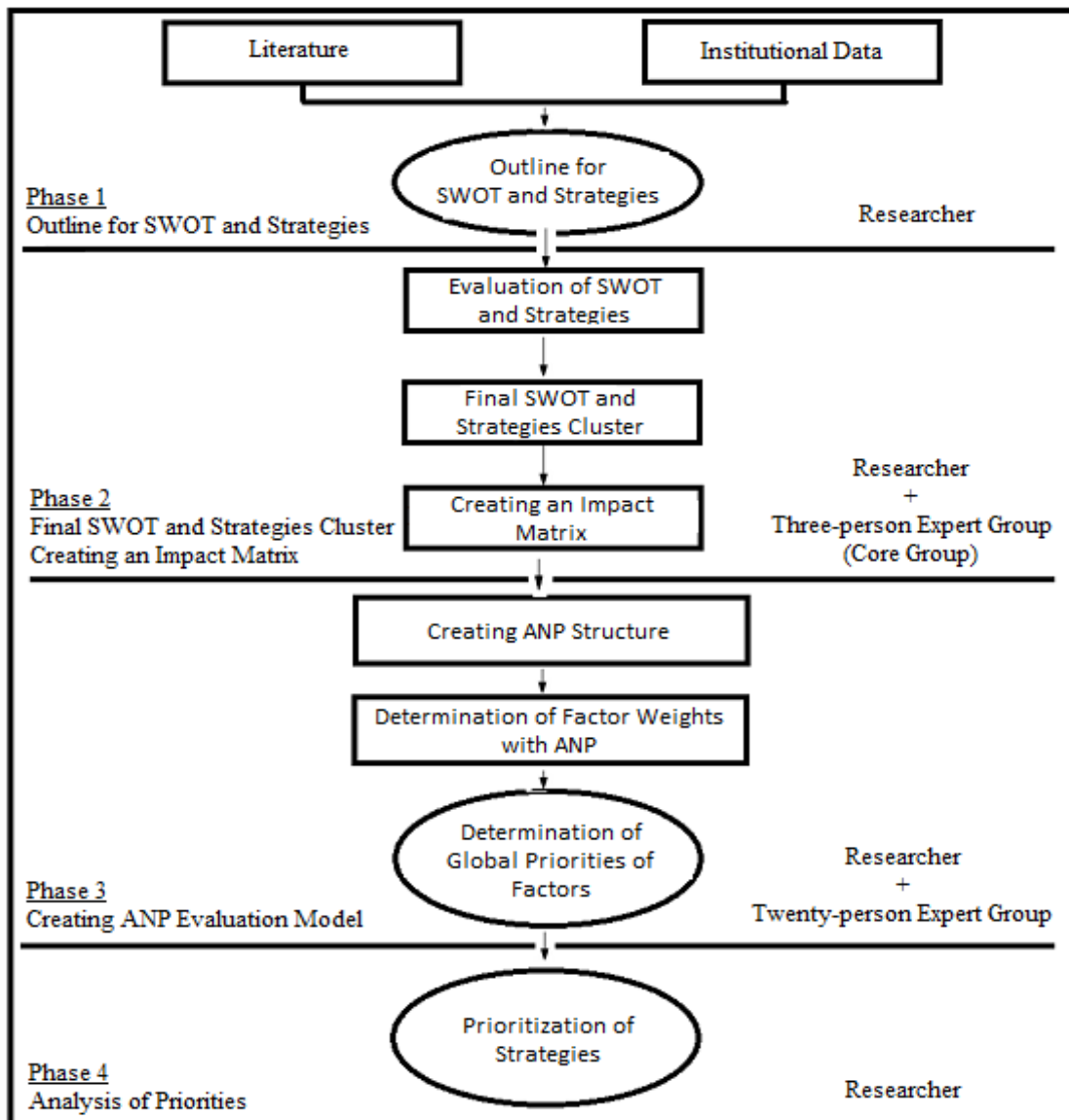
Reference: Created by researchers

The model for adapting the ANP method to SWOT analysis is shown in Figure 1. Two round face-to-face interviews were conducted with the experts in the scope of the study. While a group of 3 experts (core group) was interviewed in the first round, a group of 20 experts with the ones in the core group was interviewed in the second round.

National and international academic studies and corporate data (WHO, OECD) were used to draft the SWOT analysis of Turkey's medical tourism. Subsequently, criteria and sub-criteria of the SWOT analysis were finalized through face-to-face interviews with the core group. In addition, views of the experts were applied to determine the relationships of sub-criteria with each other and identified strategies. The relationships among criteria and sub-criteria are called impact matrix in the ANP.

Second round face-to-face interviews were conducted with 20 experts, including the views of all stakeholders of the medical tourism sector. The interviewees were composed of experts that can evaluate the current situation of Turkey's medical tourism and develop relevant strategies.

The sector stakeholders whose views were applied in the face-to-face interviews were as follows:

• Academics in the field of medical tourism

• Ministry of Health officials

• Officials of health tourism units of provincial health directorates

• Authorities of international patient units in public and private hospitals

• Medical tourism associations

• Medical tourism agencies

In the first round of interviews, the statements uttered were noted on separate forms for each expert. In addition, the impact matrix of each factor expressed by the experts was discussed separately for each sub-criterion. Different views obtained from the core group were combined, and the factors and impact matrix were finalized. The statements were then processed into the "Super Decision" package program developed to solve multi-criteria decision-making problems. According to a 1-9 scale created by the program, 127 binary comparison questions were obtained among the processed statements.

In the second round, the experts were asked to evaluate the superiorities of criteria against each other in line with the 1-9 scale. The importance level of the views of each expert was accepted as the same. Statements from interviews needed to be combined so that there was only one value for each binary comparison question. At this stage, the geometric mean of 20 different values obtained for each binary comparison gave a single value, which led us to obtain the decision matrix. Then, 127 binary comparison statements were analyzed in the Super Decision package program.

Istanbul University Social and Humanities Ethics Committee approved the research on June 21, 2018 with the number 2018 / 128-57987.

IV. RESULTS

There were 5 main criteria among the findings obtained for the SWOT analysis and strategies: strengths (S), weaknesses (W), opportunities (O), threats (T), and strategies (ST). There were also 21 sub-criteria: 5 sub-criteria for strengths, 6 sub-criteria for weaknesses, 6 sub-criteria for opportunities, and 4 sub-criteria for threats. There were also 4 sub-criteria for strategies.

4.1. SWOT Analysis of the Strategies of Turkey's Medical Tourism

Strengths

S1. Low service delivery cost

S2. Modern and technologically advanced healthcare institutions

S3. Quality service delivery

S4. Qualified human resources

S5. Advanced medical practices

Weaknesses

W1. Lack of integrated legislation between medical tourism and supporting sectors

W2. Lack of coordination among sector stakeholders

W3. Lack of effective promotion and marketing

W4. Healthcare professionals cannot speak a foreign language well

W5. Lack of sufficient agreements with foreign insurance companies

W6. The ratio of healthcare professionals to the population is rather low

Opportunities

O1. Geographical location, reliable transport network, and favorable climate conditions

O2. A center of attraction in terms of traditional tourism

O3. New universities and departments in the field of health

O4. Cultural uniformity with some countries

O5. Proximity to the countries with inadequate healthcare services

O6. Population aging in developed countries and the continuous increase in health expenditures

Threats

T1. Pricing discrepancy

T2. Political instability in the region

T3. Competition with other countries in the region

T4. Difficulty in accessing healthcare services

Strategies

ST1. Development of institutional and legal infrastructures for medical tourism

ST2. Improvement of physical and technical infrastructures for medical tourism

ST3. Improving the quality of medical tourism facilities

ST4. Effective promotion and marketing

Table 1. Dependence Between Factors

Affected Factor	Affecting Factor	Affected Factor	Affecting Factor
S1	O3, S3, T2, ST4	O3	T3, S2, O6, W3, ST1
S2	S3, S5, O3, T1, ST2	O4	O1, O2, O5, ST4
S3	S2, S4, S5, W1, W2, W4, W6, T3, ST1, ST2, ST3, ST4	O5	O1, W3, T1, ST4
S4	S2, S3, W4, W6, O3, T3, ST3	O6	T2, W5, ST2
S5	S2, S4, W1, W2, W6, O3, T3, ST1, ST2	T1	W1, W2, S1, T4, O6, ST1, ST4
W1	W2, O1, ST1	T2	T3, O4, W3, ST2
W2	W1, T1, ST1	T3	S1, S2, S3, S4, S5, W1, W2, O1, T1
W3	W1, W2, W4, T1, ST4	T4	W1, T1, ST4
W4	W1, T2	ST1	S4, W1, W2, O6, T1, ST3
W5	W1, W2, W3, W4, O5, T2, T3, ST4	ST2	S2, S3, S5, O3, T3, W3, ST3
W6	W1, W2, O6, ST4	ST3	S2, S3, S4, S5, T3, W5, O5, ST1, ST2
O1	O2, S1, ST1	ST4	S2, S3, S4, S5, O1, O2, O4, O5, O6, T3, W5, ST1, ST2, ST3
O2	S1, O1, O4, W3, T3, ST1, ST4		

The impact matrix was generated after the identification of the main and sub-criteria of the SWOT analysis and strategies. In this regard, the core group was asked whether the criteria affected each other. Then, the responses of the experts helped the impact matrix to be finalized (Table 1).

Table 2. Priority Values by Clusters

Clusters	Nodes	Normalized Values by Clusters	Priority Values by Limit Matrix
Strategies (0.2555)	ST1	0.3499	0.0894
	ST2	0.2467	0.0630
	ST3	0.1987	0.0508
	ST4	0.2047	0.0523
Strengths (0.2085)	S1	0.1839	0.0383
	S2	0.2363	0.0493
	S3	0.2099	0.0437
	S4	0.2435	0.0508
	S5	0.1265	0.0264
Weaknesses (0.1602)	W1	0.3510	0.0562
	W2	0.2901	0.0465
	W3	0.1509	0.0242
	W4	0.0513	0.0082
	W5	0.1248	0.0200
	W6	0.0320	0.0051
Opportunities (0.1743)	O1	0.2014	0.0351
	O2	0.0700	0.0122
	O3	0.3028	0.0528
	O4	0.0426	0.0074
	O5	0.1148	0.0200
	O6	0.2684	0.0468
Threats (0.2014)	T1	0.3966	0.0799
	T2	0.1594	0.0321
	T3	0.3496	0.0704
	T4	0.0944	0.0190

According to Table 2, the factor ratio of the "strategies" cluster was determined as 0.2555 (Table 2), which makes this cluster have the highest factor value. On the other hand, there were four sub-strategies in this cluster. Among these four strategies, "ST1. Development of institutional and legal infrastructures for medical tourism" was determined as the most important strategy with a value of 0.3499. The strategy "ST2. Improvement of physical and technical infrastructures for medical tourism" was determined to be the second most important strategy with a value of 0.2467. The strategy "ST3. Improving the quality of medical tourism facilities" was determined as the third most important strategy with a value of 0.2047. Finally, the strategy "ST4. Effective promotion and marketing" was found to be the least prominent factor with a value of 0.1987.

The factor ratio of the "strengths" cluster was determined as 0.2085, which makes this cluster have the second-highest factor value. There were four sub-factors in this cluster. Among these sub-factors, "S4. Qualified human resources" was evaluated as the most important sub-factor with a value of 0.2435. It was followed by "S2. Modern and technologically advanced healthcare institutions" with a value of 0.2363. The strategy "S3. Quality service delivery" was ranked as the third with a value of 0.2099. "S1. Low service delivery cost" was ranked as the fourth with a value of 0.11839. Finally, "S5. Advanced medical practices" was ranked as the last sub-factor with a value of 0.1265 (Table 2).

The factor ratio of the "weaknesses" cluster was determined as 0.1602, which makes it have the lowest factor value compared to the other clusters. This cluster included six sub-factors. Among these sub-factors, "W1. Lack of integrated legislation between medical tourism and supporting sectors" was considered as the most important sub-factor with a value of 0.3510. It was followed by "W2. Lack of coordination among sector stakeholders" with a value of 0.2901. The sub-factor "W3. Lack of effective promotion and marketing" was the third with a value of 0.1509. The sub-factor "W5. Lack of sufficient agreements with foreign insurance companies" was the fourth with a value of 0.1248. The sub-factor "W4. Healthcare professionals cannot speak a foreign language well" was the fifth with a value of 0.0513. The sub-factor "W6. The ratio of healthcare professionals to the population is rather low" took the last place with a value of 0.0320 (Table 2).

The factor ratio of the "opportunity" cluster was determined as 0.1743, which makes it have the second-lowest factor value compared to the other clusters. This cluster included six sub-factors related to opportunities. "O3. New universities and departments in the field of health" was evaluated as the most important sub-factor in this cluster with a value of 0.3028. It was followed by "O6. Population aging in developed countries and the continuous increase in health expenditures" The sub-factor "O1. Geographical location, reliable transport network, and favorable climate conditions" was ranked as the third with a value of 0.2014. The sub-factor "O5. Proximity to the countries with inadequate healthcare services" was the fourth a value of 0.11148. The sub-factor "O2. A center of attraction in terms of traditional tourism" was ranked as the fifth with a value of 0.0700. The sub-factor "O4. Cultural uniformity with some countries" took the last place with a value of 0.0426 (Table 2).

The factor ratio of the "threats" cluster was determined as 0.1743, which makes it have the third-highest factor value compared to the other clusters. This cluster included four sub-factors. "T1. Pricing discrepancy" was evaluated as the most important sub-factor with a value of 0.3966. It was followed by "T3. Competition with other countries in the region" with a value of 0.3496. The sub-factor "T2. Political instability in the region" was ranked as the third with a value of 0.1594. Finally, the sub-factor "T4. Difficulty in accessing healthcare services" took the last place with a value of 0.0944 (Table 2).

The findings revealed that "ST1. Development of institutional and legal infrastructures for medical tourism" emerged as the most important criterion with a value of 0.0894. "T1. Pricing discrepancy" was the second most important criterion with a value of 0.0799. The sub-criterion "T3. Competition with other countries in the region" emerged as the third most important criterion with a value of 0.0704. The sub-criterion "ST2. Improvement of physical and technical infrastructures for medical tourism", which is the second most appropriate strategy for Turkey's medical tourism, was ranked as the fourth compared to the others with a value of 0.0630. Then, "W1. Lack of integrated legislation between medical tourism and supporting sectors" was the fifth most important criterion with a value of 0.0562. Finally, "O3. New universities and departments in the field of health" was the sixth most important criterion with a value of 0.0468 (Table 3).

On the other hand, "W6. The ratio of healthcare professionals to the population is rather low" was found to be the least important criterion compared to the others with a value of 0.0051. It was followed by the "O4. Cultural uniformity with some countries" with a value of 0.0074, and "W4. Healthcare professionals cannot speak a foreign language well" with a value of 0.0082, respectively (Table 3).

Table 3. Binary Comparison Values by Clusters

Sub-Criteria	Priority Values by Limit Matrix
ST1. Development of institutional and legal infrastructures for medical tourism	0.0894
T1. Pricing discrepancy	0.0799
T3. Competition with other countries in the region	0.0704
ST2. Improvement of physical and technical infrastructures of medical tourism	0.0630
W1. Lack of integrated legislation between medical tourism and supporting sectors	0.0562
O3. New universities and departments in the field of health	0.0528
ST4. Effective promotion and marketing	0.0523
S4. Qualified human resources	0.0508
ST3. Improving the quality of medical tourism facilities	0.0508
S2. Modern and technologically advanced healthcare institutions	0.0493
O6. Population aging in developed countries and the continuous increase in health	0.0468
W2. Lack of coordination among sector stakeholders	0.0465
S3. Quality service delivery	0.0437
S1. Low service delivery cost	0.0383
O1. Geographical location, reliable transport network, and favorable climate	0.0351
T2. Political instability in the region	0.0321
S5. Advanced medical practices	0.0264
W3. Lack of effective promotion and marketing	0.0242
O5. Proximity to the countries with inadequate healthcare services	0.0200
W5. Lack of sufficient agreements with foreign insurance companies	0.0200
T4. Difficulty in accessing healthcare services	0.0190
O2. A center of attraction in terms of traditional tourism	0.0122
W4. Healthcare professionals cannot speak a foreign language well	0.0082
O4. Cultural uniformity with some countries	0.0074
W6. The ratio of healthcare professionals to the population is rather low	0.0051

V. DISCUSSION

Countries or organizations must develop strategies to achieve the targeted achievement in medical tourism as in any field of interest. Therefore, the most suitable strategy for Turkey's medical tourism was tried to be identified.

The ultimate goal of the present study was to evaluate strengths and weaknesses, as well as opportunities and threats of Turkey's medical tourism, and to prioritize the strategies within the national policies. The SWOT analysis was used to analyze the current situation of Turkey's medical tourism, and both internal (strengths and weaknesses) and external (opportunities and threats) factors were evaluated.

In the interviews with experts, a total of 21 sub-criteria were identified for each SWOT factor and their sub-factors (5 for Strengths, 6 for Weaknesses, 6 for Opportunities, and 4 for Threats). The criteria (4 Strategies) in the "10th Development Plan 2014-2018," published by the Ministry of

Development, were considered as the strategies for Turkey's medical tourism. The findings obtained as a result of the SWOT analysis were found to match the strategies included in the development plan.

Strategy 1 (Development of institutional and legal infrastructures for medical tourism) was elected as the most important strategy for Turkey's medical tourism. It includes legislative arrangements, coordination between institutions (public institutions and public-private sectors), planning of the target strategies by considering the target countries and regions, and establishing an excellent infrastructure for statistical measurement.

In their study conducted to determine the most appropriate structure for medical tourism in Taiwan, Wu et al. (2014) concluded that the establishment of a "Medical Holding Company" would be the most strategically favorable choice. International Healthcare Services, Inc. (USHAS), which is proposed to be established in Turkey, also has a similar institutional structure with the one in Taiwan. USHAS aims to make promotions, to perform coordination among stakeholders, to produce various policies and strategies, and to provide consultancy in the scope of accreditation. This structure, which was evaluated in the framework of the strategy "ST1. Development of institutional and legal infrastructure for medical tourism" is very similar to the one in Taiwan.

Loh (2015) stated that the legal responsibility to be shared among patients, health insurance agencies, and foreign healthcare service providers in medical tourism was not clearly defined. Therefore, legal issues related to patient safety and malpractice were the most critical issues for medical tourism.

Daniels et al. (2011) stated that a country or organization entering into an international market would face the rules of international law instead of its own national legal rules; therefore, it must comply with these norms to overcome the problems that might arise.

Rezaee and Mohammadzadeh (2016) examined the determinant factors for medical tourism in Iran and evaluated the role of stakeholders in healthcare institutions. They stated that the role of healthcare institutions was greater than that of government and supportive sectors. However, it is observed that the strategy "ST1. Development of institutional and legal infrastructure for medical tourism" remains on the state's responsibility.

Strategy 2 (Improvement of physical and technical infrastructures for medical tourism) was identified as the second most important factor among the strategies for Turkey's medical tourism. Strategy 2 includes preparing an inventory of medical tourism infrastructure, increasing the use of healthcare facilities in medical tourism, providing support for investment in medical tourism, and creating new models for land provision for tourism facilities.

Noree (2015) stated that the emergence of the contemporary concept of medical tourism was a consequence of technological deficiencies and the lack of qualified human resources in some countries. In the present study, "S4. Qualified human resources" and "S2. Modern and technologically advanced healthcare institutions" were represented as the two most important strengths of Turkey. The fact that these strategies are shown as the initiating strategies for Turkey's medical tourism supports Noree's statement.

Gunes (2013) states that the problems in service delivery due to insufficient physical and technical equipment in the Middle East, the Balkans, and Central Asian countries force the citizens of these regions to engage in medical tourism. A 4-hour flight distance to Turkey from these regions and airlines with a robust transport network, such as THY, support this strategy emerged as the second most important one. The sub-criterion "O4. Cultural uniformity with some countries" also emphasizes the importance of this strategy.

Ataman et al. (2017) emphasize the importance of developing the physical and technical infrastructures, as well as institutional and legal constituents, of institutions delivering medical tourism services. The results of the study revealed that the development of institutional and legal infrastructures, as well as the improvement of the physical and technical infrastructures, which were determined as the most and the second most important strategies, respectively, should be ensured.

In the framework of the identified strategies, it can be said that investment in physical and technical infrastructures is essential for a sound strategy for medical tourism, which is supported by the previous research.

Strategy 4 (Effective promotion and marketing) was ranked as the third most important strategy. It included sub-strategies, such as increasing publicity and marketing activities in the target countries and regions and increasing public and private sector cooperation.

Sarwar (2013) evaluated various strategic factors for the development of the medical tourism sector in Malaysia. He stated that service quality was the most important factor regarding international competitiveness, but sharing the success stories was a factor that should be considered in future competition strategies.

Using the ANP method to identify the dimensions and weights of medical tourism marketing in Taiwan, Yang (2013) identified four main factors: promotion, travel services, medical resources, and horizontal cooperation. Among the 14 sub-criteria determined based on these factors, the top five criteria were as follows: brand positioning (15%), healthcare facilities (13%), quality of healthcare (10%), travel destinations (9%), and horizontal cooperation (8%). Meanwhile, the results of this study, which emphasized the importance of brand positioning and sectoral cooperation in the marketing of medical tourism, were discussed within the strategy "ST4. Effective promotion and marketing". In this context, the present study was found to be compatible with the previous research.

Strategy 3 (Improving the quality of medical tourism services) was rated as the fourth most important strategy for Turkey's medical tourism. It included the development of quality and quantity of workforce in medical tourism, setting standards for services and facilities of medical tourism, and the development of facilitating mechanisms for accommodation and other ancillary services.

In their study conducted with tourists traveling abroad for medical tourism, Ahmed et al. (2018) showed that the concept of "quality" was the most important factor for medical tourists in the United Arab Emirates. There were also four factors identified under the concept of quality: advanced technology, qualified human resources, service quality, and maintenance quality.

Rezaee and Mohammadzadeh (2016) examined the determinant factors for medical tourism in Iran, and the concepts of "quality of healthcare services" and "high-level expertise" were found to be the two most important factors for medical tourism.

VI. CONCLUSION

It would be prudent to seek supports from the Ministry of Health, the Ministry of Culture and Tourism, the Ministry of Economy, the Ministry of Development, the Ministry of Transport, and all other stakeholders to formulate strategies for sustainable global success in the medical tourism market. In this context, relevant legislation and facilitating regulations should be made, and necessary measures should be taken by acting proactively against possible risks.

While developing the relevant strategies, the mistakes made in traditional tourism should be avoided in medical tourism. In addition, necessary actions should be taken to prevent factors that may adversely affect the access of local people to health services.

The concept of medical tourism covered in the 10th Development Plan should also be included in the subsequent development plans, which will ensure the continuity of the steps that have been taken so far.

Further studies to be done for identifying strategies for medical tourism may use other multi-criteria decision-making techniques; thus, the results obtained so far can be compared to each other. Moreover, diversity in expert groups may lead the researchers to reach different results. Finally, further studies can focus on identifying the advantages of leading countries in medical tourism by comparing them regarding various criteria to be determined.

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