

Factors Determining the Impact of Medical Tourism on Sustainable Development Goals: Evidence from Multiple Medical Tourism Stakeholders¹

Haşim ÇAPAR², Kübra İNAN³

Medikal Turizmin Sürdürülebilir Kalkınma Hedefleri Üzerindeki Etkisini Belirleyen Faktörler: Çoklu Medikal Turizm Paydaşlarından Elde Edilen Kanıtlar

Öz

Bu çalışmanın amacı, medikal turizmin sürdürülebilir kalkınma hedeflerine (SKH) etkisini belirleyen faktörleri ortaya koymaktır. Bu çalışma, Temmuz 2023 ile Şubat 2024 tarihleri arasında beş kıtadan 1057 medikal turizm paydaşıyla tanımlayıcı kesitsel tipte gerçekleştirildi. Veriler çevrimiçi bir anketle toplandı. Belirleyicileri belirlemek için t testi, ANOVA, Pearson korelasyonu ve Çoklu Lojistik Regresyon analizi yapıldı. “Evet” ve “Fikrim Yok” arasında verimlilik ve sürdürülebilirlik (OR=1,101), politika (OR=0,975), etik (OR=1,035), altyapı (OR=1,917) ve önem (OR=1,045) arasındaki olasılık oranlarının anlamlı olduğu görüldü. “Hayır” ve “Fikrim Yok” arasındaki olasılık oranlarına bakıldığında, verimlilik ve sürdürülebilirlik (OR=1,063), politika (OR=1,022), etik (OR=1,024), altyapı (OR=1,081) ve bakım (OR=1,048) anlamlı bulunmuştur. Paydaşların medikal turizmdeki rolleri ve katılım düzeyleri, medikal turizmin Sürdürülebilir Kalkınma Hedefleri üzerindeki etkisinin belirleyicileri olarak ortaya çıkmıştır.

Anahtar Kelimeler: Medikal Turizm, Paydaşlar, Sürdürülebilir Kalkınma Hedefleri

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Abstract

The purpose of this study is to reveal the factors that determine the impact of medical tourism on sustainable development goals (SDGs). This study was conducted in descriptive cross-sectional type with 1057 medical tourism stakeholders from five continents between July 2023 and February 2024. Data were collected with an online survey. To determine the determinants, t test, ANOVA, Pearson correlation and Multi Logistic Regression analysis were performed. Odds ratios between “Yes” and “No Idea”, efficiency and sustainability (OR=1.101), policy (OR=0.975), ethics (OR=1.035), infrastructure (OR=1.917), and caring (OR=1.045) were found to be significant. Looking at the odds ratios between “No” and “No Idea”, efficiency and sustainability (OR=1.063), policy (OR=1.022), ethics (OR=1.024), infrastructure (OR=1.081), and caring (OR=1.048) were found to be significant. The roles and participation levels of stakeholders in medical tourism have been revealed as determinants of the impact of medical tourism on SDGs.

Keywords: Medical Tourism, Stakeholders, Sustainable Development Goals

Makale Türü: Araştırma Makalesi

Paper Type: Research Article

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² Dr. Öğr. Üyesi, Dicle Üniversitesi, İİBF, Sağlık Yönetimi Bölümü, hasim.capar@dicle.edu.tr, <https://orcid.org/0000-0001-7056-7879>

³ Lisans Öğrencisi, İstanbul Sabahattin Zaim Üniversitesi, Sağlık Bilimleri Fakültesi, Sağlık Yönetimi Bölümü, kubrainan040@gmail.com, <https://orcid.org/0009-0002-9595-8504>

1. Introduction

It is stated that medical tourism, a new industry branch considered as an important export item, affects sustainable development goals (Butler and Szromek 2019; Hanefeld et al. 2017; Illario et al. 2019; Lotero 2022; Pessot et al. 2021; Rasoolimanesh et al. 2023; Siakwah, Musavengane, and Leonard 2020; Suess, Baloglu, and Busser 2018). In fact, a study by Suess et al. (2018) found that medical tourism has a positive effect on the growth of the local economy. Similarly, another study by Scheyvens et al. (2021) found that medical tourism increases the welfare of the country's citizens. It can be said that the education provided for the development of the medical tourism sector increases the quality education of the country (Musavengane and Simatele 2016; Siakwah et al. 2020), that quality education enables people to live a healthy and quality life (Gil-Lacruz, Gil-Lacruz, and Gracia-Pérez 2020; Ross and Van Willigen 1997), and therefore, medical tourism will increase the success rate of sustainable development goals. Because one of the sustainable development goals is to improve the health status of individuals.

At every stage of the positive impact of medical tourism on sustainable development goals, the roles and participations of health service providers and health tourists, and the government and other stakeholders who control or regulate these two sides, are quite diverse (Adams et al. 2017; Kamassi, Abd Manaf, and Omar 2020; Yilmaz, Capar, and Şeker 2021). It is thought that it will be important to examine the roles and participations of the main actors of a sector where such heterogeneous stakeholders work together in terms of sustainable development goals and to provide objective evidence. Therefore, this study focuses on examining the roles and participation levels of stakeholders in revealing the impact of medical tourism on sustainable development goals.

Some researchers, through their studies in different countries, have revealed who the stakeholders of medical tourism are, how these stakeholders define their roles in the sector, and how important their interactions are in medical tourism. However, it has been observed that research has not conducted a study examining the role and participation of medical tourism stakeholders in examining the impact of medical tourism on sustainable development goals. This study was designed to address this deficiency. This research has attempted to provide some evidence based on the role and participation levels of stakeholders in revealing the determinants of the impact of medical tourism on sustainable development goals.

2. Literature Review

Medical tourism is a tourism movement that has been carried out especially from developed countries to developing countries for the last decade (Carrera and Bridges 2006). It has been reported that this mobility has the potential to add economic strength to sustainable development goals and can play an important role in reducing poverty in developing regions (Alexis-Thomas 2020; Lotero 2022; Önder 2020; Scheyvens and Hughes 2019; Scheyvens and Laeis 2021).

The medical tourism industry is a complex structure that includes not only service providers but also travel agencies, patients, insurance companies, government and academics. Focusing on the roles and participation of stakeholders operating in this complex formation and their evaluations of the contribution of medical tourism to sustainable development goals shows the importance of this research (Uygun 2022). Effective evidence will be presented to the sector by revealing the determinants of the impact of medical tourism on sustainable development goals, depending on the role and participation levels of stakeholders in medical tourism. In this way, the development of the sector will be ensured (Johnston, Crooks, and Ormond 2015; Tsekouropoulos et al. 2024).

The multi-stakeholder structure of medical tourism requires different actors to reveal their roles, responsibilities and participation levels in its impact on sustainable development goals. This requirement can be fulfilled by measuring the role and participation of multiple stakeholders as revealed in the current study and their thoughts on the impact of medical tourism on sustainable development goals. Because governance and partnerships are also important phenomena that enable both the development of medical tourism and the fulfillment of sustainable development goals (United Nations 2021; United Nations-The World Commission on Environment and Development 1987; Vrontis et al. 2022).

In recent years, the medical tourism industry has become a driving force of sustainable development goals by enabling the export of healthcare services across borders, both facilitating access to the healthcare services needed by patients and affecting sustainability in different aspects. To understand the dynamics of this driving force, the interaction and cooperation between different stakeholders needs to be examined. This review is extremely important in terms of understanding the effects of medical tourism on sustainable development goals and shaping the future. Because medical tourism is a sector where many stakeholders do business together. By examining the roles and participation of these sector stakeholders, their opinions and thoughts in determining the sustainable development goals of medical tourism are extremely important (Adams et al. 2017; Collins et al. 2022; Jabbari et al. 2013; Kamassi et al. 2020; Yilmaz et al. 2021).

The contributions of medical tourism stakeholders to sustainable development goals play a critical role (Brown et al. 2020). This critical role-playing appears as medical tourism stakeholders' thoughts on sustainability and their activities in this field. The importance that different medical tourism stakeholders attach to sustainable development can only be understood by revealing the roles and participation levels of these stakeholders. Because the findings obtained from empirical studies on medical tourism stakeholders contribute to more accurate policies and strategies put forward for sector studies. This situation constitutes the motivation of this study.

In an empirical study conducted by (Çapar 2022), the effect of medical tourism on sustainable development goals was clearly demonstrated. However, unlike the related study, the current study tries to reveal the impact of medical tourism on sustainable development goals through evidence obtained from multiple medical tourism stakeholders. In this way, it will be tried to provide evidence about the future of medical tourism and sustainable development goals to sector representatives and policy makers.

3. Methods

3.1. Population and Sample

The research was conducted between July 2023 and February 2024 with 1057 medical tourism stakeholders from 25 different countries in the five continents.

This study was conducted in descriptive cross-sectional type. The model of the study is the relational screening model, which is a causal comparison subtype of quantitative research methods. The study complied with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement's guidelines for reporting cross-sectional studies (Appendix 1).

Participants are people aged 18 and over who reside in one of the countries included in the medical tourism index and selected as a sample, and who voluntarily participate in the study among medical tourism stakeholders.

The population of this study consists of the countries included in the Medical Tourism Index published in 2021. Data were collected by online survey method from a sample of medical tourism

stakeholders in 25 different countries from the Americas, Asia, Middle East, Europe and Africa continents which are among the important destinations of this population. Corporate employees, patients and other medical tourism stakeholders were reached through purposive and snowball sampling methods from the United Kingdom, America, France, Germany, Costa Rica, Brazil, Morocco, Türkiye, India, Greece, Iran, Russia, Israel, Canada, Thailand, Singapore, Malaysia, Colombia, South Africa, Jordan, Egypt, Italy, Spain, Argentina, and Saudi Arabia.

3.2. Inclusion and exclusion criteria

Inclusion criteria; living in one of the countries included in the medical tourism index, being a medical tourism stakeholder (government, agency, health service provider, patient, academician, decision maker, etc.), knowing enough English to answer the survey prepared in English, volunteering to participate in the study, being over 18 years of age to be. Exclusion criteria: Not living in countries not included in the medical tourism index, and having a psychiatric disorder.

3.3. Data Collection Tools and Method

The data were collected with online survey by e-mail or social media platforms. Questions in the survey such as gender, age, marital status, family history of cancer, income, education level, stakeholder type, income, relationship and cooperation with other medical tourism stakeholders, different stakeholders should come together for the development of medical tourism, country, and compatible or integrated strategy and policy of medical tourism with sustainability were used to collect data of the participants' descriptives data. In addition to these demographic questions, the Multiple Stakeholder Roles and Participation Scale in Medical Tourism (MSRPS-in-MT) developed by the researchers and three options ("Yes", "No", and "No idea") question (Do you think medical tourism contributes to sustainable development goals?) was used.

First of all, the corporate contact information of the stakeholders in the countries where the research will be conducted was determined. Then, information about the study and the online questionnaire were sent to these corporate contact addresses. Stakeholders who agreed to participate in the study were asked to fill out the form. Those who did not accept participation in the study were thanked and the same process was repeated for other stakeholders. An invitation to participate in the study was sent by sending information about the study from the social media accounts of people who could not access their contact information from corporate information and who were thought to be stakeholders. The relevant questionnaire was directed to stakeholders who accepted the invitation to participate. This process proceeded in the same way for all stakeholders in different countries.

3.4. Validation Findings of (MSRPS-in-MT)

A draft scale consisting of a 31-item question pool was prepared by the researchers, benefiting from the opinions of academics who conduct academic studies on medical tourism and the theoretical literature. The 31-item draft scale was sent to experts and opinions regarding acceptance, rejection or correction of each item were collected. Correlation regarding expert opinions was examined. In this way, the final form of the items was given. The scale was prepared with a 5-point Likert type (1 = Strongly Disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree and 5 = Strongly Agree).

Four academic experts who work on medical tourism evaluated the question items of the 31-item MSRPS-in-MT scale in terms of suitability and understandability. Content validity was made based on the answers of the experts who evaluated each item. For this purpose, a form stating "suitable", "not suitable" and "needs correction" was sent to the experts for each item. The consistency between the answers given after these forms was examined. This fit was calculated for each item. As a result of this calculation, the lowest agreement was found to be 0.86 and the highest agreement was 0.92. 3 items

that three experts working on medical tourism said were "not suitable" were removed. With these corrections, a pilot test was conducted with the 28-item MSRPS draft scale.

The pilot practice was conducted with 389 people who were randomly selected from the population and were medical tourism stakeholders. Cronbach's alpha coefficient was used for the internal consistency of the MSRPS-in-MT total scale and sub-dimensions used in the pilot practice. Accordingly, the MSRPS-in-MT total scale Cronbach's alpha coefficient was 0.789. The Cronbach's alpha coefficient of the six sub-dimensions that make up the MSRPS-in-MT scale ranged from 0.713 to 0.893. These values are above the acceptable value of 0.70 (Taber, 2018).

Test-retest reliability was used to reveal whether the MSRPS-in-MT scale was of the same stability. The results of the pilot test application and the main test application were compared. The main test was applied in the second week after the pilot test. The Pearson correlation coefficient was used for the test-retest reliability. According to the test-retest reliability results between these two tests, a statistically significant correlation was found between the pilot test results and the main test results ($r = 0.79, p < 0.001$). In addition, a statistically significant positive correlation was found between the sub-dimensions of the scale according to the test-retest reliability results. Accordingly, a positive and strong correlation was found between the first factor ($r = 0.87, p < 0.01$), the second factor ($r = 0.80, p < 0.01$), the third factor ($r = 0.78, p < 0.01$), the fourth factor ($r = 0.85, p < 0.01$), the fifth factor ($r = 0.77, p < 0.01$), and the sixth factor ($r = 0.92, p < 0.01$) pilot application scores and the main application scores. In addition, the intraclass correlation coefficient was found to be 0.91 for the total scale and between 0.73 and 0.93 for the subscales ($p < 0.01$). According to the results obtained, a very strong similarity was found between the results of the pilot application and the main application of the 19-item MSRPS-in-MT scale.

The main application sample consisted of 1057 medical tourism stakeholders from 25 different countries in various regions of the world. The research was conducted between July 2023 and February 2024.

Item-total correlation coefficient and critical ratio (CR) were used to evaluate the item analysis of the first 19 items of the MSRPS-in-MT scale. An independent t test was used to analyze the CR of each item. The results of the mean differences ranged from 3.05 to 3.69. The critical ratio was in the range of 4.03 to 16.01 ($p < .001$). According to the results, there were significant differences between the group with the highest 35% score and the group with the lowest 35% score (Hair et al. 2013). Therefore, with this result, the discriminatory power of MSRPS-in-MT scale items is seen. Also, item-total correlations vary between 0.76 and 0.93, and the norm for proficiency is over 0.40 (Knoke, Bohrnstedt and Mee 2002).

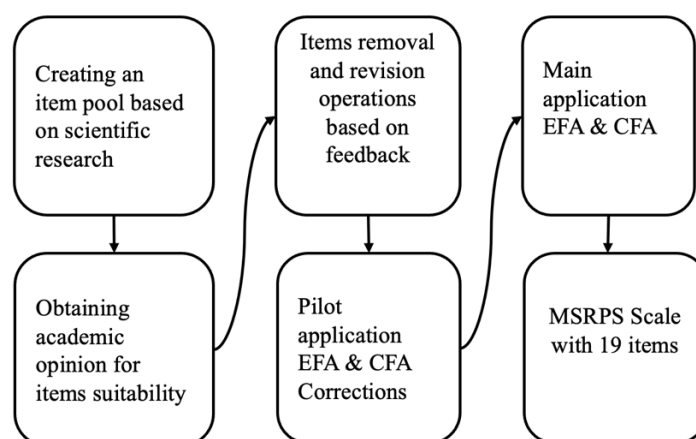


Figure 1. The flow chart of the MSRPS scale. The flowchart visualized the process from the beginning to the end of the research

Note. EFA stands for Exploratory Factor Analysis and CFA stands for Confirmatory Factor Analysis.

High scores obtained from the scale indicate that medical tourism stakeholders fulfill their roles and participation at a high level. As a result of EFA and CFA, a six-factor structure with an eigenvalue above 1 emerged. Sub-dimensions of the scale: Efficiency and Sustainability (items = 3, eigenvalue = 2.296, factor loadings = 540-890); Active role and participation for policy (items = 4, eigenvalue = 1.955, factor loadings = 580-723); Active Role and Participation for Ethics (items = 3, eigenvalue = 1.788, factor loadings = 600-810); Infrastructure for Stakeholder Role and Participation (items = 3, eigenvalue = 1.371, factor loadings = 580-760); Caring for Stakeholders and Reputation (items= 3, eigenvalue=1.119, factor loadings=630-870); Determination of roles and participation mechanism (items = 3, eigenvalue = 1.074, factor loadings = 590-821). The six-factor structure explains approximately 51% of the total variance. The Cronbach Alpha value of the scale is 0.863.

The scale instructions and items are given in Appendix 2. Since there are no negative items in the scale, there is no reverse coding.

Table 1. Values Relating to Factors and Items of the Scale (N = 1057)

Items	FACTORS						h ²
	1	2	3	4	5	6	
Faktor 1 (3 items): Efficiency and Sustainability							
1. I take an active role in issues related to resource efficiency, environmental protection, and climate change in medical tourism.	0.890						0.579
2. I fully and completely fulfill the roles assigned to me for efficiency and sustainability in medical tourism.	0.734						0.671
3. I fulfill my role to ensure that the resources allocated for medical tourism are used effectively and efficiently.	0.540						0.840
Faktor 2 (4 items): Active Role and Participation for Policy							
4. I take an active role in the formation of policies regarding cultural values, diversity, and heritage in medical tourism.		0.723					0.764
5. I participate in the formation and maturation of medical tourism policies.		0.716					0.530
6. I fulfill the requirements of my role for an effective medical tourism policy.		0.675					0.693
7. As a stakeholder, I take part and participate in the policy, planning, implementation, monitoring, and evaluation processes regarding medical tourism.		0.580					0.788
Faktor 3 (3 items): Active Role and Participation for Ethics							
8. As part of my role, I participate in the necessary work carried out by stakeholders to ensure that medical tourism is carried out in accordance with ethical values.			0.810				0.780
9. I take an active role in defining the necessary targets and indicators for medical tourism to be carried out and supervised in accordance with ethical values.			0.798				0.687

10. I participate in studies and meetings regarding the inspections and sanctions regarding whether medical tourism is carried out in accordance with ethical values.	0.600	0.567				
Faktor 4 (3 items): Infrastructure for Stakeholder Role and Participation						
11. In medical tourism, there is the necessary legal regulation for each stakeholder to participate in accordance with their role.	0.760	0.812				
12. There is strong communication and transparency among stakeholders to implement stakeholder participation in medical tourism.	0.649	0.743				
13. There is a strong institutional arrangement for the implementation of stakeholder participation in medical tourism.	0.580	0.589				
Faktor 5 (3 items): Caring for Stakeholders and Reputation						
14. I take an active role in establishing mutual understanding, peace and security among medical tourism stakeholders and participate in meetings and studies on the subject.	0.870	0.670				
15. I take an active role in ensuring that the opinions of all medical tourism stakeholders are respected, and I participate in meetings and studies on the subject.	0.678	0.807				
16. I participate in all studies to identify stakeholders for medical tourism and determine their roles.	0.630	0.582				
Faktor 6 (3 items): Determination of roles and participation mechanism						
17. I act according to the clear roles and responsibilities determined for each of the stakeholders in medical tourism.	0.760	0.821				
18. I participate in all studies to identify stakeholders for medical tourism and determine their roles.	0.652	0.808				
19. I help create the participation mechanism necessary for medical tourism stakeholders to fulfill their roles meaningfully and effectively.	0.630	0.590				
Eigenvalue	2,296	1,955	1,788	1,371	1,119	1,074
% Explained variance	12,082	10,289	9,410	7,217	5,892	5,650
Total variance %	12,082	22,371	31,781	38,998	44,890	50,540

Note. h^2 = Proportional common factor variance.

3.5. Data Analysis

Frequency and percentage values were used to report demographic and other discrete variables. Mean and standard deviation values were presented for descriptive analyzes of continuous variables. Skewness and kurtosis values were used to assume normality. Pearson Correlation Coefficient was used for correlation analysis. T-test and ANOVA analysis were conducted to reveal the determinants of the impact of medical tourism on the SDGs. Games-Howell, one of the Post Hoc tests, was applied to detect the differences reported in the ANOVA analysis. A multiple nominal logistic regression analysis (Ripley and Venables 2023) was conducted to identify the factors that determine the impact of medical tourism on the SDGs (Fox and Weisberg 2020; Hilbe 2016; Hosmer, Lemeshow, and Sturdivant 2013). All analyzes were performed with Jamovi Version 2.4 computer software (R Core Team 2022; The Jamovi Project 2023) with a two-sided p value < 0.05 at a 95% confidence level.

3.6. Ethical Consideration and Responsibilities

Ethics committee approval (decision date and number 12.06.2023–511191) was obtained from the ethics committee of a university. Informed consent was obtained from all stakeholders of medical tourism who participated in the research voluntarily.

4. Results

Table 2. Demographic Results of Participants

Variables		n	%
Gender	Male	559	52.9
	Female	498	47.1
Marital Status	Married	707	66.9
	Single, never been married	350	33.1
	Healthcare organizations	114	10.8
	Government	75	7.1
	Qualifying Organizations	90	8.5
	Healthcare Marketers	66	6.2
	Insurance Companies	87	8.2
	Academician	46	4.4
	Agencies	58	5.5
	Tour Operator	61	5.8
Stakeholder category	Local people	88	8.3
	Infrastructure and facility builders	61	5.8
	Accommodation and hotels	70	6.6
	Medical tourists	108	10.2
	Accreditation and authorization organizations	55	5.2
	Media	78	7.4
	Primary-Secondary School	212	20.1
	High school	203	19.2
	Associate Degree	216	20.4
	Graduate	233	22.0
Education	Postgraduate	193	18.3
	Bad	377	35.7
	Incomplete, needs improvement	350	33.1
Cooperation with stakeholders	Good	330	31.2
	Yes	305	28.9
Medical tourism contributes to SDGs	No	336	31.8
	No idea	416	39.4
	Yes	332	31.4
Stakeholders should come together	No	337	31.9
	No idea	388	36.7
	Europe	318	30.1
Continent	Americas	235	22.2
	Asia	241	22.8
	Middle East	206	19.5
	Africa	57	5.4
Development strategy and policy of medical tourism compatible or integrated with sustainability	Yes, partially	252	23.8
	Yes, completely	307	29.0
	No, not at all	268	25.4
	Needs to be improved	230	21.8

When the demographic characteristics of the participants were examined, it was seen that the majority were women, married and healthcare institution employees. It has been determined that the majority of stakeholders have completed graduate education, think that the cooperation between stakeholders is bad, state that it is not necessary for stakeholders to come together, state that medical tourism strategies and policies are integrated with sustainability, and are European (Table 2).

Table 3. Descriptive Statistics Results

Variable	Age	Income	Efficiency and Sustainability	Policy	Ethics	Infrastructure	Caring	Determination	MSRPS-in-MT
Mean	47.9	53463	8.57	12.3	9.29	8.63	8.96	9.90	57.6
Sd	15.7	21386	2.32	2.90	2.87	2.89	2.54	2.44	8.00
Skewness	0.025	0.062	0.226	-0.511	-0.153	-0.101	0.030	-0.395	-0.318
Kurtosis	1.13	-1.33	-0.643	-0.055	-0.730	-0.998	-1.03	-0.238	0.0874

Note. MSRPS-in-MT=Multiple Stakeholder Roles and Participation Scale in Medical Tourism

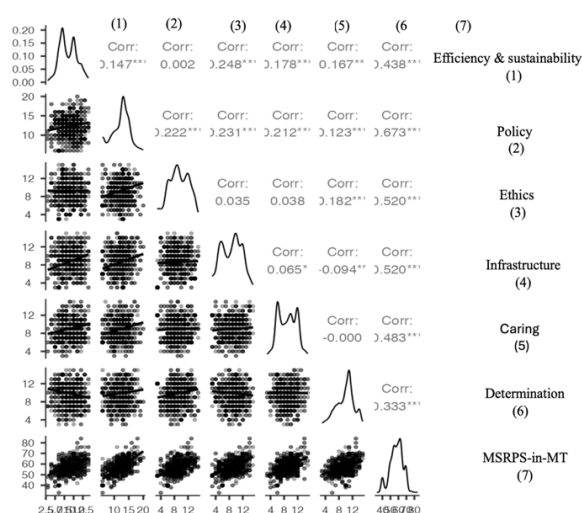
According to the t-test results conducted between the variables that could cause a difference between the Multiple Stakeholder Roles and Participation Scale in Medical Tourism (MSRPS-in-MT) and its sub-dimensions, it was seen that no variable could cause a significant difference (Table 3).

Table 4. Correlation Results

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Efficiency and sustainability (1)	Pearson's r —						
Policy (2)	Pearson's r 0.147***	—					
Ethics (3)	Pearson's r 0.002	0.222***	—				
Infrastructure (4)	Pearson's r 0.248***	0.231***	0.035	—			
Caring (5)	Pearson's r 0.178***	0.212***	0.038	0.065*	—		
Determination (6)	Pearson's r 0.167***	0.123***	0.182***	0.094**	-,0.000	—	
MSRPS-in-MT (7)	Pearson's r 0.438***	0.673***	0.520***	0.520***	0.483***	0.333***	—

Note. * $p < .05$, ** $p < .01$, *** $p < .001$; MSRPS-in-MT=Multiple Stakeholder Roles and Participation Scale in Medical Tourism

The results of Pearson's correlation analysis conducted between MSRPS-in MT and its sub-dimensions showed that all sub-dimensions had a strong positive, statistically significant correlation with MSRPS-in MT. On the other hand, while some of the sub-dimensions had a positive and statistically significant relationship with each other, some were not found to be significant (Table 4 and Figure 2).



Note. * p < .05, ** p < .01, *** p < .001; MSRPS-in-MT=Multiple Stakeholder Roles and Participation Scale in Medical Tourism

Figure 2. Graph for Correlation Results

Table 5. T-Test Results

Variable	n	Mean	sd	Statistic	df	p	Effect size	95% Confidence Interval	
								Lower	Upper
Efficiency and sustainability	Male	498	8.52	-0.602	1055	0.548	0.037	-0.366	0.194
	Female	559	8.61						
Policy	Male	498	12.22	-0.375	1055	0.708	0.023	-0.417	0.283
	Female	559	12.29						
Ethics	Male	498	9.17	-1.206	1055	0.228	0.074	-0.561	0.134
	Female	559	9.39						
Infrastructure	Male	498	8.55	-0.890	1055	0.374	0.055	-0.507	0.191
	Female	559	8.71						
Caring	Male	498	8.89	-0.879	1055	0.380	0.054	-0.445	0.170
	Female	559	9.02						
Determination	Male	498	9.87	-0.381	1055	0.703	0.024	-0.353	0.238
	Female	559	9.92						
MSRPS-in-MT	Male	498	57.22	-1.460	1055	0.145	0.090	-1.687	0.247
	Female	559	57.94						

* p<0.05; **p<0.01; ***p<0.001; MSRPS-in-MT=Multiple Stakeholder Roles and Participation Scale in Medical Tourism

According to the t-test results conducted between the variables that could cause a difference between the Multiple Stakeholder Roles and Participation Scale in Medical Tourism (MSRPS-in-MT) and its sub-dimensions, it was seen that no variable could cause a significant difference (Table 3).

Table 6. ANOVA Results

Variable		N	Mean	SD	F	df1	df2	p
(MSRPS-in-MT)- Education	Primary-Secondary School	212	57.17	8.00	0.743	4	1052	0.563
	High school	203	57.62	9.08				
	Associate Degree	216	58.39	6.99				
	Graduate	233	57.46	8.10				
	Postgraduate	193	57.36	7.76				
(MSRPS-in-MT)- Stakeholders	Healthcare organizations	114	57.13	8.40	0.438	13	1043	0.956
	Government	75	58.03	7.53				
	Qualifying Organizations	90	58.11	8.60				
	Healthcare Marketers	66	57.02	7.28				
	Insurance Companies	87	57.68	8.25				
	Academician	46	55.87	8.54				
	Agencies	58	58.05	7.35				
	Tour Operator	61	57.57	7.73				
	Local people	88	58.28	7.64				
	Infrastructure and facility builders	61	56.93	7.91				
	Accommodation and hotels	70	57.66	8.59				
	Medical tourists	108	57.98	7.71				
	Accreditation and authorization organizations	55	56.91	9.27				
(MSRPS-in-MT)- Cooperation with stakeholders	Media	78	58.13	7.52	0.921	2	1054	0.398
	Bad	377	58.05	0.409				
	Incomplete, needs improvement	350	57.41	0.416				
(MSRPS-in-MT)- Stakeholders should come together	Good	330	57.30	0.458	1.334	2	1054	0.264
	Yes	332	57.12	8.29				
	No	337	58.13	7.78				
(MSRPS-in-MT)- Continent	No idea	388	57.56	7.93	1.500	4	1053	0.202
	Europe	318	58.0	8.65				
	Americas	235	57.5	7.76				
	Asia	241	56.7	6.52				
	Middle East	206	58.2	9.22				
(MSRPS-in-MT)- Development strategy and policy of medical tourism compatible or integrated with sustainability	Africa	57	57.8	5.72	0.175	3	1053	0.913
	Yes, partially	252	57.82	7.61				
	Yes, completely	307	57.40	7.72				
	No, not at all	268	57.50	8.57				
	Needs to be improved	230	57.77	8.15				

Note. Welch's and Wisner's; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.00$; MSRPS-in-MT=Multiple Stakeholder Roles and Participation Scale in Medical Tourism

The results of the ANOVA analysis performed to reveal the determinants of the Multiple Stakeholder Roles and Participation Scale in Medical Tourism (MSRPS-in-MT) are reported. According to the findings obtained from this report, it was determined that none of the variables such as education, stakeholder type, cooperation with stakeholders, coming together of stakeholders, the continent where the stakeholders are located, and the integration of the strategy and policy of medical tourism with sustainability caused a significant difference ($p>0.05$) (Table 6).

Table 7. Omnibus Likelihood Ratio Tests Results

Predictor	χ^2	df	p
Efficiency and sustainability	7.31792	2	0.026*
Policy	2.28429	2	0.319
Ethics	1.56233	2	0.458
Infrastructure	9.46353	2	0.009**
Caring	2.77580	2	0.250
Determination	0.00409	2	0.998
Stakeholder type	87.88979	26	<.001***
How would you describe your relationship and cooperation with other medical tourism stakeholders?	8.32872	4	0.080
Do you think that different stakeholders should come together for the development of medical tourism?	5.99962	4	0.199
Do you think that the development strategy and policy of medical tourism in your country is compatible or integrated with sustainability?	29.56398	6	<.001***
Education	24.63394	8	0.002**
Income	1.30578	2	0.521

* $p<0.05$; ** $p<0.01$; *** $p<0.00$

When the results of Omnibus Likelihood Ratio Tests are examined, it is seen that variables such as Efficiency and sustainability, Infrastructure, Stakeholder type, compatible or integrated with sustainability strategy and policy of medical tourism and education, which are among the explanatory variables in the model, are statistically significant variables, while other model variables are not statistically significant variables (Table 7).

Table 8. Multiple Nominal Regression Analysis Results for “Yes” vs “No Idea”

Comparisons	Predictors	Estimates	95% Confidence Interval		SE	p	Odds ratio	95% Confidence Interval		
			Lower	Upper				Lower	Upper	
Yes vs No idea	Intercept	-0.6633	-0.66363	-0.66302	1.57e-4	< .001	0.515	0.515	0.515	
	Efficiency and sustainability	0.0965	0.09341	0.09949	0.00155	< .001	1.101	1.098	1.105	
	Policy	0.0256	0.02003	0.03110	0.00228	< .001	1.975	0.970	0.979	
	Ethics	0.0343	0.03084	0.03771	0.00175	< .001	1.035	1.031	1.038	
	Infrastructure	0.0869	0.08381	0.08989	0.00151	< .001	1.917	0.914	0.920	
	Caring	0.04412	0.04087	0.04737	0.00166	< .001	1.045	1.042	1.049	
	Determination	-4.93e	-0.00379	0.00280	0.00168	0.769	1.000	0.996	1.003	
	Stakeholder type- The reference category is “health organization”									
	Government	-0.4289	-0.42887	-0.42883	1.06e-5	< .001	0.651	0.651	0.651	
	Qualifying Organizations	0.6912	0.69116	0.69121	1.17e-5	< .001	1.996	1.996	1.996	
Healthcare Marketers	1.0836	1.08357	1.08362	1.15e-5	< .001	2.955	2.955	2.955		
Insurance Companies	-0.3690	-0.36901	-0.36899	6.75e-6	< .001	0.691	0.691	0.691		
Academician	1.0848	1.08480	1.08484	8.91e-6	< .001	2.959	2.959	2.959		
Agencies	0.1192	0.11917	0.11920	8.98e-6	< .001	1.127	1.127	1.127		
Tour Operator	0.6851	0.68511	0.68517	1.55e-5	< .001	1.984	1.984	1.984		
Resident	-0.3884	-0.38842	-0.38836	1.49e-5	< .001	0.678	0.678	0.678		

Infrastructure and facility builders	0.3598	0.35983	0.35985	4.61e-6	< .001	1.433	1.433	1.433
Accommodation and hotels	1.1904	1.19039	1.19044	1.34e-5	< .001	3.288	3.288	3.289
Medical tourists	-0.0873	-	-	1.61e-5	< .001	0.916	0.916	0.916
Accreditation and authorization organizations	0.979	0.97867	0.97871	9.39e-6	< .001	2.661	2.661	2.661
Media	0.359	0.35898	0.35903	1.38e-5	< .001	1.432	1.432	1.432
Relationship with other medical tourism stakeholders- The reference category is "bad"								
Incomplete, needs improvement	0.242	0.24197	0.24217	5.08e-5	< .001	1.274	1.274	1.274
Good	0.371	0.37137	0.37159	5.63e-5	< .001	1.450	1.450	1.450
Stakeholders should come together for the development of medical tourism- The reference category is "Yes"								
No	-0.2329	-	-	4.50e-5	< .001	0.792	0.792	0.792
No idea	-0.4104	-	-	7.10e-5	< .001	0.664	0.664	0.664
Development strategy and policy of medical tourism integrated with sustainability-The reference category is "no, not at all"								
Yes, partially	-0.2374	-	-	4.19e-5	< .001	0.789	0.789	0.789
Yes, completely	-0.3036	-	-	4.78e-5	< .001	0.738	0.738	0.738
Needs to be improved	-0.5809	-	-	2.24e-5	< .001	0.559	0.559	0.559
Education- The reference category is primary-secondary school								
High school	-0.3421	-	-	2.37e-5	< .001	0.710	0.710	0.710

Associate Degree	-0.0829	- 0	- 0	2.58e-5	< .00 1	0.92 0	0.920	0.920
Graduate	-0.1828	- 8	- 6	3.11e-5	< .00 1	0.83 3	0.833	0.833
Postgraduate	-0.4089	- 5	- 5	2.74e-5	< .00 1	0.66 4	0.664	0.664
Income	1.85e	- 6	6.03e-6	2.13e-6	0.385	1.00 0	1.000	1.000

McFadden's R²=0.078; Cox & Snell's R²=0.055; Nagelkerkes's R²=0.107; Model x² (62)=180; p<0.01

Note. The reference category is "no idea" for the dependent variable.

The model of the multinomial logistic regression analysis comparing the "Yes" and "No Idea" groups was found to be statistically significant (McFadden's R²=0.078; Cox & Snell's R²=0.055; Nagelkerkes's R²=0.107; Model x² (62)=180; p<0.01) (Table 8 and Table 9).

Looking at the predictors of the dependent variable, efficiency and sustainability ($\beta=0.0965$, $p<0.001$), policy ($\beta=0.0256$, $p<0.001$), ethics ($\beta=0.0343$, $p<0.001$), infrastructure ($\beta=0.0869$, $p<0.001$), and caring ($\beta=0.04412$, $p<0.001$) which are the sub-dimensions of MSRPS-in-MT were found to be statistically significant, but determination ($\beta=-4.93e$, $p>0.05$) was not. Looking at the odds ratios between "Yes" and "No Idea", efficiency and sustainability (OR=1.101), policy (OR=0.975), ethics (OR=1.035), infrastructure (OR=1.917), and caring (OR=1.045) were found to be significant. Accordingly, if the efficiency and sustainability, policy, ethics, infrastructure and caring scores increase by 1 point, the probability of the medical tourism stakeholder thinking that medical tourism contributes to Sustainable Development Goals (SDGs) respectively 1.101, 1.975, 1.035, 1.917, 1.045 will increase (Table 8).

The results in which the Healthcare organization was determined as the reference stakeholder were reported. According to these results, government ($\beta=-0.4289$, $p<0.001$), qualifying organizations ($\beta=0.6912$, $p<0.001$), healthcare marketers ($\beta=1.0836$, $p<0.001$), insurance companies ($\beta=-0.3690$, $p<0.001$), academician ($\beta=1.0848$, $p<0.001$), agencies ($\beta=0.1192$, $p<0.001$), tour operator ($\beta=0.6851$, $p<0.001$), residents ($\beta=-0.3884$, $p<0.001$), infrastructure and facility builders ($\beta=0.3598$, $p<0.001$), accommodation and hotels ($\beta=1.1904$, $p<0.001$), medical tourists ($\beta=-0.0873$, $p<0.001$), accreditation and authorization organizations ($\beta=0.979$, $p<0.001$), and media ($\beta=0.359$, $p<0.001$) were all found to be statistically significant. Accordingly, when compared to the stakeholders of healthcare organizations, qualifying organizations (OR=1.996), healthcare marketers (OR=2.955), academician (OR=2.959), agencies (OR=1.127), tour operator (OR=1.984), infrastructure and facility builders (OR=1.433), accommodation and hotels (OR=3.288), accreditation and authorization organizations (OR=2.661), and media (OR=1.432) will increase medical tourism stakeholder's beliefs that medical tourism contributes to SDGs by 1.996, 2.955, 2.959, 1.127, 1.984, 1.433, 3.288, 2.661, 1.432, respectively. But, when compared to the stakeholders of healthcare organizations, qualifying organizations government (OR=0.651), insurance companies (OR=0.691), residents (OR=0.678), and medical tourists (OR=0.916) will decrease medical tourism stakeholder's beliefs that medical tourism contributes to SDGs by 0.651, 0.691, 0.678, 0.916 respectively (Table 8).

In the comparison of communication and cooperation between medical tourism stakeholders, the analysis results showed that the "Bad" category was the reference value and the incomplete, needs improvement ($\beta=0.242$, $p<0.001$) and good ($\beta=0.371$, $p<0.001$) categories were found to be significant. Accordingly, when compared to the bad category, the incomplete, needs improvement (OR=1.274), and good (OR=1.450) will increase medical tourism stakeholder's beliefs that medical tourism contributes to SDGs by 1.274, 1.450, respectively (Table 8).

When compared to the "yes" reference value in the necessity of medical tourism stakeholders coming together, the categories No ($\beta=-0.2329$, $p<0.001$), and No idea ($\beta=-0.4104$, $p<0.001$) were found to be significant. Therefore, No (OR=0.651), and No idea (OR=0.691) will decrease medical tourism stakeholder's beliefs that medical tourism contributes to SDGs by 0.792, 0.664 respectively (Table 8).

When compared to the "no nat at all" reference value for development strategy and policy of medical tourism integrated with sustainability, the categories yes, partially ($\beta=-0.2374$, $p<0.001$), yes, completely ($\beta=-0.3036$, $p<0.001$), and Needs to be improved ($\beta=-0.5809$, $p<0.001$) were found to be significant. Therefore, yes, partially (OR=0.651), yes, completely (OR=0.691), and Needs to be improved (OR=0.559) will decrease medical tourism stakeholder's beliefs that medical tourism contributes to SDGs by 0.789, 0.738, 0.559, respectively (Table 8).

When compared to the "primary-secondary school" reference for education, the categories high school ($\beta=-0.3421$, $p<0.001$), associate degree ($\beta=-0.0829$, $p<0.001$), graduate ($\beta=-0.1828$, $p<0.001$), and postgraduate ($\beta=-0.4089$, $p<0.001$) were found to be significant. Therefore, yes, high school (OR=0.710), associate degree (OR=0.920), graduate (OR=0.833), and postgraduate (OR=0.664) will decrease medical tourism stakeholder's beliefs that medical tourism contributes to SDGs by 0.710, 0.920, 0.833, 0.664 respectively.

Table 9. Multiple Nominal Regression Analysis Results for "No" vs "No Idea"

Comparisons	Predictor	Estimate	95% Confidence Interval		SE	p	Odds ratio	95% Confidence Interval	
			Lower	Upper				Lower	Upper
No vs No idea	Intercept	0.44979	0.45009	0.44948	1.57e-4	<.001	0.638	0.638	0.638
	Efficiency and sustainability	0.06087	0.05785	0.06389	0.00154	<.001	1.063	1.060	1.066
	Policy	0.02178	0.01732	0.02624	0.00228	<.001	1.022	1.017	1.027
	Ethics	0.02365	0.02024	0.02706	0.00174	<.001	1.024	1.020	1.027
	Infrastructure	0.05714	0.05013	0.06514	0.00153	<.001	1.081	0.942	0.947

Caring	0.04713	0.04389	0.05038	0.00166	< .001	1.048	1.045	1.052
Determination	0.00164	-0.00163	0.00491	0.00167	0.326	1.002	0.998	1.005
Stakeholder type- The reference category is "health organization"								
Government	-0.86470	-0.86472	-0.86468	1.03e-5	< .001	0.421	0.421	0.421
Qualifying Organizations	-0.12709	-0.12711	-0.12707	9.55e-6	< .001	0.881	0.881	0.881
Healthcare Marketers	1.19317	1.19314	1.19319	1.29e-5	< .001	3.298	3.297	3.298
Insurance Companies	-0.36772	-0.36773	-0.36770	7.80e-6	< .001	0.692	0.692	0.692
Academician	0.86410	0.86408	0.86412	9.80e-6	< .001	2.373	2.373	2.373
Agencies	-0.51196	-0.51198	-0.51195	8.48e-6	< .001	0.599	0.599	0.599
Tour Operator	-0.47734	-0.47736	-0.47732	1.16e-5	< .001	0.620	0.620	0.620
Resident	-0.69214	-0.69217	-0.69211	1.51e-5	< .001	0.501	0.500	0.501
Infrastructure and facility builders	0.17436	0.17435	0.17437	6.39e-6	< .001	1.190	1.190	1.191
Accommodation and hotels	0.39148	0.39146	0.39150	1.18e-5	< .001	1.479	1.479	1.479
Medical tourists	0.13708	0.13704	0.13712	2.04e-5	< .001	1.147	1.147	1.147
Accreditation and authorization organizations	1.14859	1.14857	1.14861	9.96e-6	< .001	3.154	3.154	3.154

Media	- 0.7128 1	- 0.7128 3	- 0.7127 9	9.36e- 6	< .00 1	0.49 0	0.49 0	0.490
Relationship with other medical tourism stakeholders- The reference category is "bad"								
Incomplete, needs improvement	0.0238 8	0.0237 8	0.0239 7	4.83e- 5	< .00 1	1.02 4	1.02 4	1.024
Good	0.4497 0	0.4495 8	0.4498 1	5.81e- 5	< .00 1	1.56 8	1.56 8	1.568
different stakeholders should come together for the development of medical tourism-The reference category is "yes"								
No	- 0.0768 6	- 0.0769 5	- 0.0767 7	4.48e- 5	< .00 1	0.92 6	0.92 6	0.926
No idea	0.0420 7	0.0419 2	0.0422 2	7.69e- 5	< .00 1	1.04 3	1.04 3	1.043
Development strategy and policy of medical tourism compatible or integrated with sustainability-The reference category is "no, not at all"								
Yes, partially	- 0.9143 8	- 0.9144 5	- 0.9143 0	3.95e- 5	< .00 1	0.40 1	0.40 1	0.401
Yes, completely	- 0.9249 4	- 0.9250 1	- 0.9248 6	3.92e- 5	< .00 1	0.39 7	0.39 7	0.397
Needs to be improved	- 0.4843 9	- 0.4844 5	- 0.4843 4	2.92e- 5	< .00 1	0.61 6	0.61 6	0.616
Education- The reference category is "primary-secondary school"								
High school	- 0.6493 8	- 0.6494 2	- 0.6493 3	2.25e- 5	< .00 1	0.52 2	0.52 2	0.522
Associate Degree	- 0.0324 4	- 0.0324 9	- 0.0323 8	2.96e- 5	< .00 1	0.96 8	0.96 8	0.968
Graduate	- 0.8392 2	- 0.8392 7	- 0.8391 7	2.53e- 5	< .00 1	0.43 2	0.43 2	0.432
Postgraduate	- 0.8249 3	- 0.8249 8	- 0.8248 8	2.64e- 5	< .00 1	0.43 8	0.43 8	0.438

Income	4.23e-6	8.79e-8	8.37e-6	2.11e-6	0.045	1.000	1.000	1.000
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McFadden's R²=0.078; Cox & Snell's R²=0.055; Nagelkerkes's R²=0.107; Model x² (62)=180; p<0.01

Note. The reference category is "no idea" for the dependent variable.

Looking at the predictors of the dependent variable, efficiency and sustainability ($\beta=0.06087$, $p<0.001$), policy ($\beta=0.02178$, $p<0.001$), ethics ($\beta=0.02365$, $p<0.001$), infrastructure ($\beta=0.05714$, $p<0.001$), and caring ($\beta=0.04713$, $p<0.001$) which are the sub-dimensions of MSRPS-in-MT were found to be statistically significant, but determination ($\beta= 0.00164$, $p>0.05$) was not. Looking at the odds ratios between "No" and "No Idea", efficiency and sustainability (OR=1.063), policy (OR=1.022), ethics (OR=1.024), infrastructure (OR=1.081), and caring (OR=1.048) were found to be significant. Accordingly, if the efficiency and sustainability, policy, ethics, infrastructure and caring scores increase by 1 point, the probability of the medical tourism stakeholder thinking that medical tourism contributes to Sustainable Development Goals (SDGs) respectively 1.063, 1.022, 1.024, 1.081, 1.048 will increase (Table 9).

The results in which the Healthcare organization was determined as the reference stakeholder were reported. According to these results, government ($\beta=-0.86470$, $p<0.001$), qualifying organizations ($\beta=-0.12709$, $p<0.001$), healthcare marketers ($\beta=1.19317$, $p<0.001$), insurance companies ($\beta=-0.36772$, $p<0.001$), academician ($\beta=0.86410$, $p<0.001$), agencies ($\beta=-0.51196$, $p<0.001$), tour operator ($\beta=-0.47734$, $p<0.001$), residents ($\beta=-0.69214$, $p<0.001$), infrastructure and facility builders ($\beta=0.17436$, $p<0.001$), accommodation and hotels ($\beta=0.39148$, $p<0.001$), medical tourists ($\beta=0.13708$, $p<0.001$), accreditation and authorization organizations ($\beta=1.14859$, $p<0.001$), and media ($\beta=-0.71281$, $p<0.001$) were all found to be statistically significant. Accordingly, when compared to the stakeholders of healthcare organizations, healthcare marketers (OR=3.298), medical tourists (OR=1.147), academician (OR=2.373), infrastructure and facility builders (OR=1.190), accommodation and hotels (OR=1.479), and accreditation and authorization organizations (OR=3.154) will increase medical tourism stakeholder's beliefs that medical tourism contributes to SDGs by 3.298, 1.147, 2.373, 1.190, 1.479, 3.154 respectively. But, when compared to the stakeholders of healthcare organizations, government (OR=0.421), qualifying organizations (OR=0.881), insurance companies (OR=0.692), agencies (OR=0.599), tour operator (OR=0.620), residents (OR=0.501), and media (OR=0.490) will decrease medical tourism stakeholder's beliefs that medical tourism contributes to SDGs by 0.421, 0.881, 0.692, 0.599, 0.620, 0.501, 0.490 respectively (Table 9).

In the comparison of communication and cooperation between medical tourism stakeholders, the analysis results showed that the "Bad" category was the reference value and the incomplete, needs improvement ($\beta=0.024$, $p<0.001$) and good ($\beta=0.450$, $p<0.001$) categories were found to be significant. Accordingly, when compared to the bad category, the incomplete, needs improvement (OR=1.024), and good (OR=1.568) will increase medical tourism stakeholder's beliefs that medical tourism contributes to SDGs by 1.024, 1.568, respectively (Table 9).

When compared to the "yes" reference value in the necessity of medical tourism stakeholders coming together, the categories No ($\beta=-0.07686$, $p<0.001$), and No idea ($\beta= 0.04207$, $p<0.001$) were found to be significant. Therefore, No (OR=0.926) category will decrease medical tourism stakeholder's beliefs that medical tourism contributes to SDGs but No idea (OR=1.043) category will increase medical tourism stakeholder's beliefs that medical tourism contributes to SDGs (Table 9).

When compared to the "no nat at all" reference value for development strategy and policy of medical tourism integrated with sustainability, the categories yes, partially ($\beta=-0.91438$, $p<0.001$), yes, completely ($\beta=-0.92494$, $p<0.001$), and Needs to be improved ($\beta= -0.48439$, $p<0.001$) were found to be significant. Therefore, yes, partially (OR=0.401), yes, completely (OR=0.397), and Needs to be improved (OR=0.616) will decrease medical tourism stakeholder's beliefs that medical tourism contributes to SDGs by 0.401, 0.397, 0.616, respectively (Table 9).

When compared to the "primary-secondary school" reference for education, the categories high school ($\beta=-0.64938$, $p<0.001$), associate degree ($\beta=-0.03244$, $p<0.001$), graduate ($\beta=-0.83922$, $p<0.001$), and postgraduate ($\beta=-0.82493$, $p<0.001$) were found to be significant. Therefore, yes, high school (OR=0.522), associate degree (OR=0.968), graduate (OR=0.432), and postgraduate (OR=0.438) will decrease medical tourism stakeholder's beliefs that medical tourism contributes to SDGs by 0.522, 0.968, 0.432, 0.438 respectively.

5. Discussion

Medical tourism is an industry that is becoming increasingly popular and continues to grow internationally (Lunt et al., 2011; Tontus, 2015; Roman, Roman and Wojcieszak-Zbierska, 2022b). While this sector is defined by the fact that it involves patients traveling between countries for treatment, surgery and other healthcare services, the roles of stakeholders involved in and affected by these trips are quite diverse (Jabbari et al., 2013; Adams et al. 2013). , 2017; Labonté et al., 2018; Kamassi, Abd Manaf and Omar, 2020; Yılmaz, Capar and Şeker, 2021; Collins, Medhekar and Şanal, 2022). This sector appears to contribute to sustainable development goals through both its economic value and stakeholders' practices (Çapar 2022; Dwyer 2022; Figueiredo, Abrantes, and Costa 2024; Tsekouropoulos et al. 2024; Xu et al. 2023).

In this study, different stakeholders' perspectives on the sustainable development goals of medical tourism are reported in order to reveal the determinants of the contribution of medical tourism to the sustainable development goals. Many authors have demonstrated the contribution of medical tourism to sustainable development goals (Çapar 2022; Dwyer 2022; Figueiredo, Abrantes, and Costa 2024; Tsekouropoulos et al. 2024; Xu et al. 2023). However, unlike other studies, this current study revealed the determinants of the impact of medical tourism on sustainable development goals with evidence obtained from multiple stakeholders. In this respect, this study has evidence considered from a broad perspective. This reveals the importance of the study.

This study, which proves the findings of previous studies, can be seen as an important step in determining the impact of the medical tourism sector on sustainable development goals according to the roles and participation levels of multiple stakeholders and the thoughts on the effects of medical tourism on sustainable development. There are many stakeholders in the medical tourism mobility process. This multiple understanding and thought makes the medical tourism process a complex structure. In this complexity, the impact of medical tourism on sustainable development goals may vary depending on the roles and participation levels of the stakeholders. Because the interaction and synergy between health service providers, health service recipients and all other medical tourism stakeholders have been determined to be determinants of the impact of medical tourism on sustainable development goals.

It has been determined that efficiency and sustainability, policy, ethics, infrastructure and caring, which are the sub-dimensions of MSRPS-in-MT, are significant determinants on the sustainable development goals of medical tourism. While efficiency in technical terms is the use of minimum resources to produce maximum outputs, allocation efficiency is the effective use of resources by transferring scarce resources to the right areas. Based on this definition, it is an expected result that efficiency will have a positive impact on sustainable development goals. Because sustainability aims to

transfer resources to future generations. From this perspective, it is seen that medical tourism is an important driving force in terms of using resources to meet the needs and transferring them to future generations. Because medical tourism is both an economic source of income and a sector that many stakeholders are interested in for sustainable development.

In recent years, it has been observed that all destination authorities with medical tourism potential have taken steps for sustainable medical tourism and developed policies on this issue. Therefore, the contribution of the policy factor to sustainable development goals can be evaluated as the result of this effort. Because, as in every field, it requires that the studies and activities in the field of medical tourism progress with a certain policy by all stakeholders. This requirement has led to the results of the current study.

The infrastructure of medical tourism destinations, the importance that stakeholders give to each other and ethical values have positively affected the sustainable development goals. Although sustainable development goals are based on various rules, they are actually based on respect for ethical values and stakeholders fulfilling their duties and roles completely. Because it is a known fact that all efforts made by stakeholders without caring about ethical values are in vain.

All studies carried out for sustainability require the infrastructure to be strong. A strong infrastructure also ensures that the deficiencies in the field attract more attention and that the deficiencies are completed with policies. For this, stakeholders need to care about each other. If stakeholders care about each other, other deficiencies can be completed within the framework of the developed policies. Similar results have been reported in many related studies (Figueiredo et al. 2024; Kruk et al. 2018; Trip, Simut, and Badulescu 2023; Tsekouropoulos et al. 2024). Many related studies have reported similar results (Figueiredo et al. 2024; Kruk et al. 2018; Trip, Simut, and Badulescu 2023; Tsekouropoulos et al. 2024).

In this study, the findings obtained from the survey data conducted with medical tourism stakeholders in different continents are thought to be extremely important in terms of revealing the impact of medical tourism on sustainable development goals and reflecting the perspectives of different stakeholders in the light of current information on the practical life of medical tourism.

This study will try to provide evidence for the strategies to be determined for the sustainable development goals of countries and will enable more accurate and effective policies to be determined. However, it should not be forgotten that this study was conducted within the framework of some limitations. Some of these limitations are due to the research not reaching the general population, and some of them are due to some shortcomings of the cross-sectional research type. Since cross-sectional studies show a momentary situation, they may sometimes be insufficient to explain chronic problems.

6. Conclusion

It is very important to reveal the roles and participation levels of complex and multiple stakeholders in medical tourism in the light of scientific data. Because revealing the determinants of the impact of the medical tourism economy on sustainable development goals will guide both the strategic action plans of countries and the achievement of sustainability goals. This current study, revealing the factors that may be the determinants of medical tourism and providing evidence to politicians in this direction will make a great contribution to sustainable development goals. This contribution will provide a roadmap on how and in what way the impact of medical tourism on sustainable development goals can be improved. Because revealing which factors and in what way medical tourism impacts on sustainable development goals will shed light on the role and participation of relevant stakeholders. It is thought that the practical and theoretical inferences obtained from the study results will help to understand how and to what extent stakeholders affect the impact of medical tourism on sustainable

development goals and what kind of interaction should be made for this effect. In this way, it will be easier to understand and interpret stakeholder interactions that are seen as complex. In this way, it will be understood how countries with potential in terms of medical tourism will implement a new economic sector in order to achieve sustainable development goals. This will provide evidence that will strengthen the hands of politicians. It is thought that this study will lead to future studies on the subject and will provide the emergence of new studies with high contribution levels. It is thought that the findings obtained from this study will provide a starting point especially for those who will conduct research with long-term data. In this way, while examining the impact of medical tourism on sustainable development goals, possible chronic problems will be revealed and solution suggestions for these problems will be put forward.

Ethics Approval and Consent to Participate

For this study, the necessary ethics committee permission was obtained from Dicle University Ethics Committee with the decision dated 12.6.2023 and numbered 511191.

Author Contributions

Author 1's contribution to the article is 60%, and Author 2's contribution to the article is 40%.

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Conflict of Interest Disclosure

The authors declare that there is no conflict of interests.

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