

The Impact of Medical Tourism on Tourist Attraction A Case Study of a Sample of Mineral Baths in Mila Province

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Abstract:

This study examines the impact of medical tourism on tourist attraction in Mila Province. A case study was conducted on a sample of mineral baths using primary data collection and observation to identify the main components of medical tourism in the province. The study adopted a descriptive and analytical statistical approach and used a questionnaire as the main data collection tool. The data were analyzed using the Statistical Package for the Social Sciences (SPSS v20). The results indicate that the impact of medical tourism on tourist attraction is relatively weak, estimated at about 20.6%, while 79.4% of the variation in tourist attraction is explained by other factors not included in the study model. Despite the presence of mineral baths and natural resources, their contribution to attracting tourists remains limited. The study recommends increasing support for the medical tourism sector by improving services, infrastructure, and investment conditions

Keywords: Spa Tourism, Spa Tourism Service, Tourist Attraction, Tourist Attraction Area, Mineral Baths.

JEL Classification Codes : L83, M31.

Résumé:

Cette étude examine l'impact du tourisme médical sur l'attractivité touristique dans la wilaya de Mila. Une étude de cas a été menée sur un échantillon de bains minéraux à partir de la collecte de données primaires et de l'observation afin d'identifier les principales composantes du tourisme médical dans la wilaya. L'étude a adopté une approche statistique descriptive et analytique et a utilisé un questionnaire comme principal outil de collecte des données. Les données ont été analysées à l'aide du logiciel statistique pour les sciences sociales (SPSS v20).

Les résultats indiquent que l'impact du tourisme médical sur l'attractivité touristique est relativement faible, estimé à environ 20,6 %, tandis que 79,4 % de la variation de l'attractivité touristique s'explique par d'autres facteurs non inclus dans le modèle de l'étude. Malgré la présence de bains minéraux et de ressources naturelles, leur contribution à l'attraction des touristes demeure limitée. L'étude recommande de renforcer le soutien au secteur du tourisme médical en améliorant les services, les infrastructures et les conditions d'investissement.

Mots clés : Tourisme Thermal, Service De Tourisme Thermal, Attractivité Touristique, Zone D'attraction Touristique, Bains Minéraux.

Jel Classification Codes : L83, M31.

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I. Introduction

Medical tourism has experienced steady growth as a result of the increasing number of individuals seeking therapeutic services. This trend has been exploited by both developed and developing countries to develop this type of tourism, as they have succeeded in attracting large numbers of tourists seeking therapeutic services. Among the most prominent of these countries are the United States, Malaysia, and Turkey. In the Arab world, Tunisia, Jordan, and Egypt are among the best-known countries where medical tourism is highly active.

Many countries around the world have turned their attention to medical tourism and have worked to develop it because of the growing demand for it and its advanced position among other forms of tourism. It ranks third after leisure tourism and business tourism, accounting for 10% of total global tourism activity.

Tourism specialists believe that Algeria is rich in natural mineral springs and baths that attract tourists and patients and make it possible to support, promote, and develop medical tourism within the framework of a strategic plan. This activity can be made one of the tourism offerings on the basis of which an attractive and competitive tourist destination can be built, providing a space for recreation, relaxation, and treatment. This can be achieved through coordination between scientific specialists and therapeutic institutions, and by making it an important step through enabling the therapeutic sector to benefit from techniques and skills that qualify it to achieve professionalism in this field.

Medical tourism represents one of the forms of tourism in Algeria, and its limited activity does not truly reflect Algeria's potential in this field. It is therefore one of the forms of tourism most capable of and in need of development, as it possesses many medical tourism assets, whether natural, such as its vast area, geographical location, moderate climate, and diverse terrain, or human resources capable of providing medical tourism services, which are considered one of the pillars of the tourism sector. It is also one of the tourism forms most capable of growth because of Algeria's hot sulfurous springs, which have health and therapeutic benefits. Mila Province is considered one of the Algerian provinces that enjoys the assets of medical tourism.

I.1 Study Problem

The study problem revolves around how to advance medical tourism in Algeria and promote this product by highlighting the country's assets in this field, making it one of the forms of tourism that attract tourists in light of the mineral waters and therapeutic sulfur baths that our country possesses. Mila Province is considered one of the Algerian provinces that has paid attention to this sector, as it enjoys human potential and natural resources that have qualified it to become a therapeutic tourism hub.

Accordingly, the following main question is raised:

To what extent does medical tourism in a sample of baths in Mila Province affect the achievement of tourist attraction?

To answer this problem, the following questions were raised:

- What is the concept of medical tourism, and what are its components?
- What does tourist attraction consist of, and what are its factors?
- How does medical tourism contribute to tourist attraction in Mila Province?

1.2 Study Hypothesis

Based on the questions posed, the following two hypotheses were formulated:

H0: There is no statistically significant effect of medical tourism on tourist attraction in the baths under study in Mila Province.

H1: There is statistically significant effect of medical tourism on tourist attraction in the baths under study in Mila Province.

1.3 Study Importance

The importance of the study is reflected in the following:

- Identifying the impact of medical tourism on tourist attraction;
- Highlighting the importance of medical tourism as one of the forms of tourism capable of development, attracting many tourists, generating foreign currency, and creating many direct and indirect job opportunities.

II. The Theoretical Framework of the Study Variables

II.1 General Introduction to Medical Tourism

II.1.1 The Origin of Medical Tourism

The phenomenon of medical tourism dates back to the distant past, according to what natural studies in this field have demonstrated. By reviewing the history of treatment with mineral waters, we observe that the relationship between human beings and mineral waters was both religious and health-related at the same time, as people believed that mineral springs were sacred places. Among the Greeks, it was believed that the healing effect of these waters came from divine supernatural powers. Thus, water was considered a kind of deity capable of bringing healing to the sick, and for this reason people worshipped rivers, as was the case in ancient times with the Nile River (Mill, 1985, p. 05).

Medical tourism developed gradually and with limited experience, as people discovered that some rheumatic and respiratory diseases could be cured by moving to certain places characterized by a special climate. Later, the therapeutic properties of mineral springs were discovered, and the Romans excelled in building therapeutic baths, decorating them with beautiful statues, and adjoining them with entertainment halls. When the Renaissance emerged in Europe, travel to therapeutic cities became a form of luxury reserved for the wealthy, and these cities included the largest hotels and the most beautiful gardens (Jenkin & Youngman, 2018, p. 01).

After the Second World War, visiting these cities was no longer limited to the wealthy, but also included the middle classes due to the spread of health insurance and the rise in living standards. This contributed greatly to the flourishing of this type of tourism. In the modern era, most European countries became interested in this type of tourism, and later Japan and the United States entered this field. Eastern European countries are considered among those that achieved widespread success.

A country such as Poland conducted a comprehensive geological survey, drilled new springs, and built new hotels for this purpose during the 1960s. This was reflected in the country's reputation, as it became a major destination for medical tourism. As a result, many Western European countries became firmly established in this field, such as Italy, which expanded in the establishment of therapeutic cities, with more than forty spa towns containing mineral waters, and achieved significant tourism revenue, unlike cities that rely on climate and seawater for therapeutic tourism. At present, therapeutic cities have developed further and now include centers for medical research on the properties of mineral waters, their effects, climate, and other treatment methods. In addition, each city has specialized in a particular type of treatment for specific diseases ([Hassan Saleh & Ghassan, 2009, p. 68](#)).

II.1.2 Definition of Medical Tourism

Medical tourism is the temporary movement of individuals outside working hours, whether during leisure time or specific holidays. Medical tourism may involve travel to places where specialized or distinguished hospitals are available, or to therapeutic resorts such as areas where treatment using natural resources is widespread, including mineral or hot waters, sunlight, or a range of climatic characteristics. On the other hand, some other types of tourism may also be linked to medical tourism if the primary purpose is relaxation and psychological treatment ([Lunt, 2012, p. 08](#)).

Medical tourism is travel abroad for the purpose of receiving medical treatment, cosmetic treatment, or dental treatment in other countries. Medical tourism is also viewed as curative tourism, medical travel, or global healthcare. The number of people choosing to receive medical treatment abroad instead of receiving treatment in their home country increases from year to year ([OECD, 2010, pp. 30–31](#)).

Medical tourism includes the natural elements found in tourist resorts for the treatment and recovery of patients, such as the abundance of mineral and sulfur springs, sand, and sunlight, for the purpose of recovery from certain skin and rheumatic diseases ([COMCEC, 2020, p. 21](#)).

II.1.3 Definition of Medical Tourism Service:

Gronroos stated that a service is an activity or a means of an intangible nature in most cases, and it is not necessarily produced through interaction between the consumer and the service provider, or through financial resources, goods, or systems that are offered as solutions to the problems facing the buyer. Kotler, on the other hand, defined it as any activity or benefit that one party offers to another, which is essentially intangible and does not result in ownership. Its production may or may not be linked to the provision of a tangible physical product. Medical tourism service represents the core of the marketing mix strategy, as it includes the goods, services, or ideas offered in the field of healthcare and therapeutic care. It forms the fundamental link between the tourism establishment and the tourist, and it is a combination of natural conditions and industrial resources (Al-Azzam, p. 141).

II.1.4 Characteristics of Medical Tourism Services:

Medical tourism services are distinguished by a number of characteristics, including the following (Zahra, 2016, p. 35):

- They cannot be stored: the tourist is required to travel in order to consume them, such as hotel nights.
- The wide concentration of facilities: due to geographical, climatic, and historical factors, the existence of tourism infrastructure is limited to a certain number of locations. Therefore, consideration should be given to distributing them across different parts of the country in order to create a kind of balance.
- Temporary concentration: the consumption of medical tourism services differs from the consumption of other products. Medical tourism services are subject to climatic changes and leisure periods, and therefore their consumption takes place during limited periods characterized by seasonality.
- Medical tourism services require the presence of the tourist.
- Production and consumption both take place in the same location and at the same time.

II.2 Basic Concepts of Tourist Attraction

II.2.1 Definition of Tourist Attraction

Some define tourist attraction from two different perspectives (Hanis & Haward, 1993, p. 123).

- **The first perspective:** Tourist attraction is a natural or cultural characteristic of a particular place that individuals and tourists consider capable of filling their leisure time.

These characteristics differ in nature from one place to another, such as climate, culture, vegetation, and scenery. They may also be specific to a particular place, such as hotels, museums, and theaters.

- **The second perspective:** Tourist attraction is a favorable or positive feature of an area with a particular activity, or the arrangement of activities as desired by the customer, including the quality of food, decoration, and cultural activities.

Tourist attraction has also been defined as: “A place that includes a set of specific and complementary activities and services that are properly utilized as an important center of culture, relaxation, and entertainment for the purpose of receiving tourists, such as historical sites, public gardens, national parks, forests, and cultural events (Metelka, 1990, p. 154).”

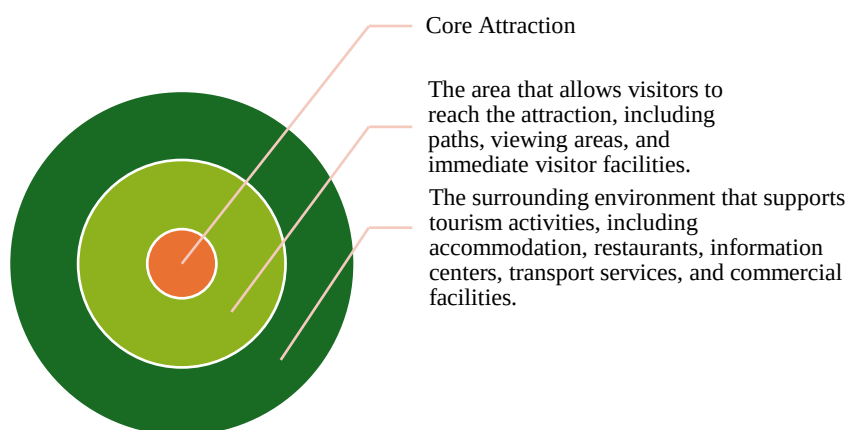
II.2.2 Definition of an Attractive Tourist Area

An attractive tourist area represents the geographical place that offers the tourism product, that is, the set of services provided through various activities and experiences for different tourists who aspire to the best.

Gunn (1972, 1988) is considered the first to present a model of the spatial environment of tourist attraction, represented by three concentric circles, which he divided into the following zones (Botti, Peypoch, & Solonandrasana, 2008, p. 43):

- **The first zone:** Includes the core or nucleus, which is considered the center of tourist attraction in the area.
- **The second zone:** The circle surrounding the core, through which access to the attraction is possible.
- **The third zone:** Refers to the surrounding environment that protects the first two zones. It includes all the important administrative and commercial services at the heart of the attraction activity, including accommodation, food, information, and others.

Figure No. (01): Gunn’s Concentric Circles Model (1972, 1988)



Source : (Botti, Peypoch, & Solonandrasana, 2008, p. 43)

II.2.3 Factors of Tourist Attraction

A. Natural factors of tourist attraction:

These include (Rossi, Gervasoni, & Oliani, 2011, p. 291):

- Geographical location, mountains, geological formation, and sea stacks or sea pillars;
- Caves and natural caverns, and rocky forests;
- Waterfalls, cascades, and climate;
- Coasts and beaches;
- Natural reserves and mineral springs;
- Other natural attraction features.

B. Human factors and archaeological and historical assets of tourist attraction:

These include (Sharma & Das, 2007, pp. 110–113):

- Religious and social factors;
- Infrastructure and superstructure;
- Transport facilities, means of transportation, and tourist guides;
- Tourism offices and tourism facilities, in addition to hospitality factors;
- Hospitality factors.

III. Methodological Procedures of the Field Study

III.1 Population and Sample of the Study

III.1.1 Study Population:

The study population refers to all the elements selected in a certain way in order to conduct an accurate study on them. Out of the 23 baths located in Mila Province, the study was limited to four baths, two of which were traditional and the other two showed signs of modernity. The opinions of the customers in these baths were surveyed on several topics related to medical tourism and tourist attraction.

III.1.2 Study Sample:

Given the difficulty of studying the entire population and conducting a comprehensive survey, the partial survey method was adopted because it offers several advantages, including saving time and effort, ensuring data accuracy, and obtaining data as quickly as possible. In addition, it was the only available method for conducting the study due to the impossibility of carrying out a comprehensive survey. In determining the sample size, the simple random sampling method was used. Accordingly, a sample of 91 respondents was selected, and the questionnaire was distributed to them. All questionnaires were retrieved, and none of them was excluded.

III.2 Study Instrument:

The instrument used in this study was the questionnaire, as it is considered one of the most suitable scientific research tools consistent with the research data. The study instrument was designed with reference to the theoretical framework and by benefiting from the questionnaires of some studies related to the subject of the research. A preliminary questionnaire form was prepared by identifying the main sections of the questionnaire that answer the main research question and its sub-questions. In light of this, a number of possible answers were formulated for each question, with an indication to select the appropriate option. The questionnaire includes 29 statements, and the general structure of the study instrument consists of three sections:

- **The first section:** It includes the personal and occupational data of the sample members, with the aim of identifying the characteristics of the respondents in terms of gender, age, occupation, place of residence, monthly income, and reason for the visit.
- **The second section:** It includes the statements of the independent variable, represented by medical tourism, and it was measured through 14 statements.
- **The third section:** It includes the statements of the dependent variable, represented by tourist attraction, and it was measured through 15 statements.

III.3 Spatial Boundaries (the Baths under Study):

During the field visit conducted for the distribution and collection of the questionnaire, three different areas containing natural baths were visited. These were the Telaghma area (Hammam El Hajj Lakhdar), the Oued Athmania area (Hammam El Shifa and Hammam Sidi Kassem), and the Hamala area (Hammam Beni Haroun).

III.3.1 Hammam El Hajj Lakhdar:

This is a natural mineral bath located in the municipality of Telaghma. It was discovered during the search for irrigation water. This bath includes three sections: a section designated for men containing two pools for collective bathing, sports equipment for treatment inside the large pool, a sauna, luggage lockers closed using technology through an electronic bracelet, a doctor, masseurs, and a designated resting area. There is also a section designated for women and another mixed section for married couples, in addition to a car park and a cafeteria.

Table (01): The chemical composition and therapeutic properties of the water of Hammam El Hajj Lakhdar

Chemical Composition of the Water	Concentration (mg/L)	Therapeutic Properties
Calcium	109	Non-acute joint diseases
Magnesium	50.6	After-effects of joint and bone

		fractures
Potassium	5.11	Certain neurological disorders
Sodium	74	Certain skin diseases
Sulfates	74	Certain diseases of the larynx and respiratory system
Chloride	177	After-effects and symptoms of neurosurgery
Bicarbonates	231.8	Certain growth disorders in children
Nitrates	8.2	—
Nitrites	2.7	—

Source: Directorate of Tourism of Mila Province (internal documents).

III.3.2 Hammam El Shifa (Rangi):

This bath is located in the municipality of Oued Athmania in Mila and is owned by the Rangi brothers. It is a natural mineral bath discovered during exploration. It contains both cold water and hot water, a section designated for women, and another designated for men, in addition to collective water pools and individual pools.

Table (02): The chemical composition and therapeutic properties of the water of Hammam El Shifa

Chemical Composition of the Water	Concentration (mg/L)	Therapeutic Properties
Calcium	180	Treatment of digestive and urinary system diseases
Magnesium	73	Growth disorders in children
Sodium	200	Diseases of the ear, nose, throat, and bronchial inflammation
Sulfates	52	Rheumatic diseases
Chloride	260	—
Bicarbonates	360	—

Source: Directorate of Tourism of Mila Province (internal documents).

III.3.3 Hammam Beni Haroun:

This bath is located in the municipality of Hamala in Mila Province. It consists of a natural source of hot water with a temperature estimated at 42°C and a high flow rate estimated at 43 liters per second. It was once a destination for visitors, but it has become a swamp where even the minimum standards of cleanliness are absent, as a result of neglect and the abandonment of it by the municipal authorities. By all standards, it is a forgotten paradise. At present, it is not being used, and entry is free because it lies within the area of a spa station project in the same region, which is still under construction.

III.3.4 Hammam Sidi Kassem (Grouz):

This bath is located in the municipality of Oued Athmania in Mila. It is a natural spring that is exploited in a traditional manner. It consists of old houses containing three pools for collective use in the section designated for men and three pools for collective use in the section designated for women, in addition to an open-air swimming pool with hot water. As for the chemical composition of the water and its therapeutic properties, they are the same as those mentioned for Hammam El Shifa, since both originate from the same spring, namely Grouz.

III.4 Testing the Reliability of the Study Instrument:

Cronbach's Alpha coefficient was used, and this coefficient takes a value between zero and one. The closer this coefficient is to one, the greater the reliability of the study instrument. The results were as shown in the following table:

Table (03): Cronbach's Alpha coefficient for measuring the reliability of the study dimensions

Questionnaire Dimensions	Number of Items	Dimension Reliability – Alpha Value
Second Dimension	14	0.803
Third Dimension	15	0.863
Entire Questionnaire	29	0.896

Source: Prepared by the researcher based on the questionnaire results and the outputs of SPSS

From the table above, we observe that the Cronbach's Alpha value for the entire questionnaire is high, reaching 0.896. The reliability coefficients for the questionnaire dimensions also ranged between 0.803 and 0.863. This indicates that the questionnaire, in all its dimensions, has a high degree of reliability and can be relied upon in the study.

III.5 Presentation and Analysis of the Results of the Field Study

In this section, we present the personal and occupational characteristics of the members of the study sample, as well as identify the impact of medical tourism on tourist attraction in a sample of baths in Mila Province, which constitute the subject of the field study, in addition to testing the study hypotheses. For this purpose, the responses of the study sample members were tabulated and discussed.

III.5.1 Presentation and Analysis of the Results Related to Personal Data

In order to clarify certain facts related to the study sample, some variables affecting the individual in terms of orientations and reactions were selected, namely gender, age, occupation, place of residence, monthly income, and reason for visit. A frequency distribution table was prepared for each variable, including frequencies and percentages, based on the data obtained from the distributed

questionnaires.

A. Distribution of sample members by gender

Table (04): Distribution of sample members by gender

Gender	Frequency	Percentage (%)
Male	72	79.1
Female	19	20.9

Source: Prepared by the researcher based on the results of the questionnaire and the outputs of SPSS.

We note that most visitors to the mineral baths in Mila Province are male, representing 79.1%. The reason for this is that customs and traditions influence the attendance of women, and some baths are not properly equipped to receive this category. Male visitors, on the other hand, do not find it difficult to go to these centers for treatment and relaxation at the same time.

B. Distribution of sample members by age

Table (05): Distribution of sample members by age

Age	Frequency	Percentage (%)
20–35	33	36.3
36–45	31	34.1
46–65	17	18.7
66 and above	10	11

Source: Prepared by the researcher based on the results of the questionnaire and the outputs of SPSS.

The table shows that visitors aged between 20 and 35 years constitute the largest category among the sample members, at 36.3%, followed by the 35 to 45 age group at 34.1%. The 45 to 65 age group represents 18.7%, while those over 65 years represent 11%. This is primarily due to the nature of society, which is dominated by the youth category, as well as the prevalence of certain diseases in this group, especially skin diseases, in addition to the treatment of some effects of fractures and surgical operations.

C. Distribution of sample members by occupation

Table No. (06): Distribution of sample members by occupation

Occupation	Frequency	Percentage (%)
Employee	40	44
Unemployed	18	19.8
Self-employed	16	17.6
Retired	17	18.7

Source: Prepared by the researcher based on the results of the questionnaire and the outputs of SPSS.

The table shows that the category of employees is the group most attracted to this type of tourism. This is primarily due to the fact that one of our three visits

took place on Saturday, when there was a high turnout to these establishments, especially among this category, since it was a day off, allowing them to seek treatment and relaxation at the same time. The other categories came in relatively close proportions, ranging between 17% and 19%, which indicates that medical tourism is accessible to everyone depending on the place visited.

D. Distribution of sample members by place of residence

Table (07): Distribution of sample members by place of residence

Place of Residence	Frequency	Percentage (%)
Within the Province	55	60.4
Outside the Province	36	39.6

Source: Prepared by the researcher based on the results of the questionnaire and the outputs of SPSS.

The table shows that sample members residing in Mila Province are the most frequent visitors to these establishments, at 60.4%. This is due to the proximity of these establishments to urban areas, especially Oued Athmania. As for people coming from outside the province, they are mainly seeking treatment with mineral waters and are interested in the water composition and its therapeutic properties.

E. Distribution of sample members by monthly income

Table (08): Distribution of sample members by monthly income

Monthly Income	Frequency	Percentage (%)
Less than 30,000 DZD	40	44
From 30,000 to 45,000 DZD	18	19.8
From 45,000 to 60,000 DZD	20	22
60,000 DZD and above	13	14.3

Source: Prepared by the researcher based on the results of the questionnaire and the outputs of SPSS.

The table shows that the highest percentage belongs to the category with an income of less than 30,000 Algerian dinars. This means that monthly income is not related to people's demand for this type of tourism, because the services provided are limited and therefore the cost is low and affordable for all, unlike the usual pattern in medical tourism.

F. Distribution of sample members by reason for visit

Table (09): Distribution of sample members by reason for visit

Reason for Visit	Frequency	Percentage (%)
Therapeutic	45	49.5
Recreational	46	50.5

Source: Prepared by the researcher based on the results of the questionnaire and the outputs of SPSS.

The table shows that the reasons for visiting among the study sample are

very close, with 49.5% of individuals visiting these establishments for treatment purposes and 50.5% for entertainment or relaxation. This is due to the availability of thermal swimming pools, which particularly attract young people from within the province.

G. Distribution of sample members by number of visits

Table (10): Distribution of sample members by number of visits

Number of Visits	Frequency	Percentage (%)
Less than 5 visits	16	17.6
From 5 to 15 visits	28	30.8
More than 15 visits	47	51.6

Source: Prepared by the researcher based on the results of the questionnaire and the outputs of SPSS

The table shows that repeat visits in this type of tourism exceed 15 visits for 51.6% of the sample. This is due to the therapeutic nature of these visits, the expected benefits from them, and the pursuit of recovery. As for the group whose visits range from 5 to 15 visits, it represents those who achieved complete recovery, most of whom suffered from skin diseases or mild medical conditions.

III.5.2 Presentation and Analysis of the Data of the Second Dimension (Components of Medical Tourism in Mila Province)

To answer the study questions on the basis of arithmetic means and standard deviations, the ranks of these means and the degree of agreement were determined according to the following criterion:

Table No. (11): Arithmetic mean and standard deviation of the components of medical tourism in Mila Province.

Phrase	Arithmetic Average	Standard deviation
01- There is a recreational effect of mineral baths	4.10	0.651
02- Mineral baths are considered one of the most important elements for the success of medical tourism	4.46	0.564
03- Mineral baths have a therapeutic role	4.35	0.524
04- Health resorts help restore physical fitness	4.21	0.606
05- The level of service provided by the bathhouse is good	3.52	1.079
06- Security contributes to the flourishing of medical tourism	4.05	0.911
07- Mineral baths help restore physical fitness	4.26	0.593
08- The service provided by the medical staff is of high quality	3.27	1.012
09- Enjoy your time while you are in the mineral bath	4.26	0.574
10- The warm welcome and helpfulness of the bathhouse staff will make you want to go there	4.16	0.898
11- Modern technological methods are used that are suitable for the medical tourist	3.19	1.125
12- You can get detailed information about the cost of treatment before you arrive at the mineral bath	3.43	1.107
13- The mineral bath management's attention to your complaints makes you want to use it	3.76	1.058
14- You feel happy to visit the mineral bath	4.25	0.754

Arithmetic mean and standard deviation total	3.9490	0.50936
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Source: Prepared by the researcher based on the results of the questionnaire and the outputs of SPSS.

The table above shows the arithmetic means and standard deviations of the responses of the study sample to the items of the dimension concerning the components of medical tourism in Mila Province. These means ranged from 3.19 to 4.46, with standard deviations ranging from 1.125 to 0.564. The overall arithmetic mean of this dimension was estimated at 3.9490, which reflects a high degree of agreement, with a standard deviation of 0.50936, which is less than one. This indicates a general consistency in the opinions of the sample members and shows that Mila Province possesses the most important components that contribute to attracting tourists to the province.

Item No. 02 ranked first: “Mineral baths are among the most important factors for the success of medical tourism,” with an arithmetic mean of 4.46, which is higher than the overall arithmetic mean of 3.94, and a standard deviation of 0.564. It was followed by Item No. 03: “Mineral baths play a therapeutic role,” with an arithmetic mean of 4.35 and a standard deviation of 0.524. After that came Item No. 07 and Item No. 09, namely: “The bath helps restore physical fitness” and “You enjoy your time while staying at the bath,” each with an arithmetic mean of 4.26 and standard deviations of 0.593 and 0.574 respectively. Meanwhile, Item No. 11, “Modern technical means are used that are suitable for the medical tourist,” ranked last, with an arithmetic mean of 3.19, due to the reliance on traditional methods.

The standard deviation for the first dimension reached 0.50936, which shows general consistency and reflects the consensus of the sample members that Mila Province has important medical tourism components which, if fully exploited, could constitute an important factor in attracting tourists, especially if this type of tourism is linked to other forms of tourism.

III.5.3 Presentation and Analysis of the Data of the Third Dimension (Tourist Attraction Factors in Mila Province)

To answer the study questions on the basis of arithmetic means and standard deviations, the ranks of these means and the degree of agreement were determined according to the following criterion:

Table (12): Arithmetic mean and standard deviation of the tourist attraction factors in Mila Province

Phrase	Arithmetic Average	Standard deviation
15- Mila is considered a tourist province due to its mineral baths	4.13	0.846
16- Mila province offers leisure and relaxation tourism	3.85	0.954
17- The mineral baths gave value to the area in which they are located	4.22	0.692
18- The inhabitants of Mila province enjoy a rich tourism culture,	3.48	1.119

which encourages tourists to visit it		
19- The interest of the authorities in Mila province in medical tourism leads to an increase in tourists visiting it	3.07	1.245
20- Transportation services in Mila are considered affordable	3.55	1.057
21- Mila province has convenient means of transport and communication	3.12	1.143
22- Mila province has historical and archaeological attractions that draw tourists to it	3.98	0.856
23- Mila province has a sufficient number of hotels to accommodate tourists coming to it	2.74	1.134
24- Mila province has all the elements of security and tranquility, which has made it one of the safe provinces	3.95	0.874
25- The prices of medical tourism services are affordable for everyone	3.90	0.932
26- The prevailing climate in Mila province is suitable for medical tourism	4.04	0.802
27- Mineral baths are a source and destination for many visitors	4.14	0.676
28- Thanks to medical tourism, Mila has become a competitor to other cities in attracting tourists	3.54	1.205
29- Mila province has a considerable number of mineral baths that qualify it to be an integrated tourist hub	4.34	0.749
Arithmetic mean and standard deviation total	3.7363	0.53517

Source: Prepared by the researcher based on the results of the questionnaire and the outputs of SPSS.

The table shows the arithmetic means and standard deviations of the responses of the study sample members to the items of the dimension entitled “Tourist Attraction Factors in Mila Province.” The arithmetic means in this dimension ranged from 2.74 to 4.34, with standard deviations ranging from 0.749 to 1.134. The overall arithmetic mean of this dimension was estimated at 3.7363, which reflects a high degree of agreement, with a standard deviation of 0.53517, which is less than one. This indicates a general consistency in the opinions of the sample members and shows that Mila Province has elements of tourist attraction. Item No. 29 ranked first: “Mila Province has a considerable number of mineral baths that qualify it to become an integrated tourism hub,” with an arithmetic mean of 4.34, which reflects the presence of baths capable of becoming a tourism hub that can attract the largest possible number of tourists, and a standard deviation of 0.749. It was followed by Item No. 17: “The baths have given value to the area in which they are located,” with an arithmetic mean of 4.22 and a standard deviation of 0.692. Meanwhile, Item No. 23: “Mila Province has a sufficient number of hotels to accommodate tourists,” ranked last, with an arithmetic mean of 2.74, which is lower than the overall arithmetic mean of 3.7363, and a standard deviation of 1.134. From this, we note that the level of dispersion is low, which indicates closeness in viewpoints.

We observe a general consistency in the opinions of the sample members, which reflects the contribution of the natural and human factors of the province to the

development of medical tourism and the achievement of tourist attraction.

III.6 Testing the Study Hypothesis

The study hypothesis is tested using simple linear regression analysis. The null hypothesis (H0) is accepted if the level of significance is greater than 0.01, and rejected if the level of significance is equal to or less than 0.01.

If the calculated T value is greater than the tabulated T value, we accept the alternative hypothesis (H1) and reject the null hypothesis (H0).

Study Hypothesis:

To test the validity of the hypothesis, simple linear regression analysis was used to examine the impact of medical tourism on tourist attraction.

H0: There is no statistically significant effect of medical tourism on tourist attraction in the baths under study in Mila Province.

H1: There is statistically significant effect of medical tourism on tourist attraction in the baths under study in Mila Province.

The following table shows the relationship between the correlation coefficient, the regression coefficient, the values of T and F, and the level of significance.

Table (13): Results of the simple linear regression analysis of the impact of medical tourism on tourist attraction

Statistic	Value	Statistic	Value		
Correlation Coefficient (R)	0.454	Coefficient of Determination (R ²)	0.206		
Calculated F Value	23.103	Significance Level (Sig)	0.000 ($\alpha \leq 0.01$)		
Variable	Unstandardized Coefficients (A)	Standard Error	Standardized Coefficient (Beta)	Calculated T Value	Significance Level (Sig)
Impact of Medical Tourism on Tourist Attraction (Constant)	2.335	0.339	0.454	4.807	0
	0.432	0.09			

Source: Prepared by the researcher based on the results of the questionnaire and the outputs of SPSS.

The tabulated **T** value is **1.662**.

The tabulated **F** value is **3.95**.

Regression Equation:

$$Y = AX_1 + B$$

$$Y = 0.432X_1 + 2.335$$

Where:

X1: represents the independent variable.

B: the constant term.

The table above shows the results of the simple linear regression analysis of the impact of medical tourism on tourist attraction in Mila Province. The results of this analysis indicated that the coefficient of determination (R^2) reached 0.206, meaning that 20.6% of the changes occurring in tourist attraction are due to the changes occurring in medical tourism, while the remaining 79.4% are due to other factors not included in the study model. The value of the linear correlation coefficient (R) between medical tourism and tourist attraction reached 0.454, which indicates the existence of a moderate positive relationship between the two variables.

This statistical test also showed that this percentage is statistically significant at a level lower than 0.01, since the calculated T value reached 4.807, which is greater than the tabulated T value of 1.662. The probability value (Sig.) is smaller than the accepted significance level of 0.01, as it equals 0.00.

Accordingly, we reject the null hypothesis (H_0) and accept the alternative hypothesis (H_1), which indicates that there is a statistically significant effect at the significance level $\alpha = 0.01$ of medical tourism on tourist attraction in Mila Province, but to a weak degree.

Through the field study related to this applied chapter, which included an examination of the various components of medical tourism and the natural and human attraction factors in Mila Province, it was concluded that Mila Province is characterized by important medical tourism resources. In addition, it contains natural and human attraction factors that may qualify it in the future to become an important tourism hub. However, from the practical point of view, and based on the results of the questionnaire and the outputs of the SPSS program, it was found that medical tourism does exist in Mila Province, but its effect on tourist attraction is weak, at a rate of 20.6%.

IV. Conclusion

From the theoretical and applied study, we conclude that medical tourism is a means of benefiting from existing resources, investing in them, and making use of them in the economic and social fields. This type of tourism has come to generate substantial financial resources, and it also reflects the human desire to travel for treatment and to head toward the region's most attractive for this type of tourism. In this regard, Mila Province possesses medical tourism resources through the presence of many baths, as well as the emergence of signs of investment in this field in three different areas of the province: the Ouled Bouhama station in Mila, the Beni Haroun spa station, and the El Shifa therapeutic spa complex in Oued Athmania. This is what makes it actually influence the factors of tourist attraction in the province.

Among the results of the study are the following:

- Mila Province possesses medical tourism resources through the baths

located there;

- Mila Province possesses important natural and human factors of tourist attraction, but they are not being used rationally;
- The topic of medical tourism is considered an important one because it combines treatment and recreation at the same time;
- The results of the study showed that medical tourism in Mila Province contributes to attracting tourists and increasing income;
- The field study showed that the contribution of medical tourism to tourist attraction is weak;
- The study showed that there are many obstacles facing medical tourism in Mila Province, including land availability, government support, and the granting of investment licenses.

Recommendations

Through our applied study of a group of baths in Mila Province, we present a set of recommendations in order to address the existing shortcomings:

- The relevant authorities should pay greater attention to the medical tourism sector and allocate more capacities and resources to support it, while monitoring the extent to which the specifications booklet is applied in the implementation of these projects, preventing violations, and ensuring that they are carried out according to the approved standards;
- Building permits should be granted for accommodation facilities, and equipment should be renewed because it deteriorates over time;
- The pace of implementation of the planned projects should be accelerated in accordance with international standards, especially with regard to facilities that are still under construction;
- Coordination between spa establishments and the health sector is necessary, especially given their connection to the therapeutic and curative aspect;
- Electronic promotion, media, communication tools, and technology should be used to highlight the natural and human tourism resources of the province, as well as its spa and medical tourism potential;
- Modern technical methods for treatment with mineral waters should be used;
- The services provided by spa establishments should be improved, and the various observations and complaints of the beneficiaries of the service should be taken into account;
- Work should be done to create a suitable investment climate that serves the interests of the medical tourist, to promote Mila Province as a rich destination for successful investment opportunities in this field, and to move beyond its local market to global markets.



- Providing integrated official electronic portals that allow tourists to view medical centers, doctors' academic qualifications, costs, and book appointments electronically before traveling.
- Injecting additional funds to build new hotels and expand existing ones.
- Providing specialized training programs for workers in the medical and tourism sectors, to ensure the provision of professional coordination and logistical services for patients.



V. References:

- Al-Azzam, A. M. (n.d.). A Study of the Marketing Mix for Attracting Medical Tourism in Jordan. *International Journal of Marketing Studies*. Jordan.
- Botti, L., Peypoch, N., & Solonandrasana, B. (2008). *Tourism Engineering: Concepts, Methods, Application*. Brussels and Paris: Boeck.
- COMCEC2020Developing Medical Tourism in the OIC Member CountriesAnkara
COMCEC Coordination Office
- Dictionary of Hospitality, Travel and Tourism*1990New York
- Factors Influencing the Attractiveness of a Tourism Destination: A Case Study2007*Journal of Services Research*
- Hanis, R., & Haward, J. (1993). *Travel, and Tourism*. Hospitality Press.
- Jenkin, J., & Youngman, I. (2018). *Medical Travel and Tourism*. London: IMT, LaingBuisson.
- Lunt, N. (2012). *Medical Tourism: Treatments, Markets and Health System Implications: A Scoping Review*. Paris: OECD.
- Medical Tourism and Its Impact on the Jordanian National Economy: A Field Study from the Perspective of Workers in Some Jordanian Private Hospitals2009Al-Qadisiyah *Journal of Administrative and Economic Sciences*
- Mill, M. (1985). *The Tourism: Introductory Text*. Englewood Cliffs: Hall, Inc.
- OECD2010Health Accounts Experts Progress Report: Trade in Health Care Goods and Services under the System of Health AccountsParis
- What Are the Attractiveness Factors That Influence the Choice of Tourism Destination: A Study of Brazilian Tourism Consumers2011*Chinese Business Review*
- Zahra, O. F. (2016). The Problematic of Tourism Marketing in the South: A Case Study of Bechar Province as a Model. *Master's Thesis*. Oran, Algeria: University of Oran.