THE IMPACT OF THE DESTINATION IMAGE AND THE INFORMATION SOURCES ON THE PERCEPTION OF THE MEDICAL IMAGE OF THE COUNTRY AND THE INTENTION TO VISIT IT FOR MEDICAL PURPOSES

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Abstract

Purpose- This paper intends to analyze the impact of the destination image and the information sources which are: 1 / word of mouth (Wom), 2 / electronic word of mouth (eWom) and 3 / commercial sources, on the medical image of a destination and the intention to visit it for medical purposes.

Methodology/Design/Approach- An exploratory study was carried out with 247 people of different nationalities who have undergone surgery abroad or who are planning to do so. Three versions of the surveys were administered on Google Forms. The data were analyzed by the method of structural equations.

Findings- The main results are: 1 / The image of the destination significantly influences the medical image and the intention to travel. 2 / The information sources that most help in choosing a medical destination are consecutively: 1/the eWom, 2/ the Wom, and 3/ the commercial sources. Whereas, the sources that have the most impact on intention to travel are 1/Wom and 2/eWom.

Originality of the research- This research highlights the importance of reflecting a positive image of the whole country (safety, attractiveness, hospitality of the people, etc.) and not just promoting its medical image. The second contribution of this study is to show the importance of eWom, Wom and commercial sources in the country choice process.

Keywords Medical tourism- Destination image- eWom- Wom- Commercial sources

INTRODUCTION

Traveling for treatment dates back to antiquity. It is also one of the oldest forms of tourism. This tourism has clearly developed in the twentieth century thanks to technological development and the democratization of means of transport, which has led to a rapid development of tourism in the world and therefore of medical tourism. A study carried out in 2015 by "VISA" (Mapping the future of Global travel and Tourism), predicts that the growth of the medical tourism sector between 2015 and 2025, will reach 25% each year. These figures and forecasts confirm that it is a booming sector, generating several billion dollars each year. Medical tourism is mainly in two directions: patients from low-and middle-income countries (LMICs) seeking higher quality medical care and patients from high-income countries (HICs) seeking low-cost medical care (Kosaka et al., 2021). The increase in medical tourism and cooperation in the health and medical sector may be a path to improving relationships between countries (Kim & Hyun, 2022). The growth of medical tourism has led to the rising number of countries getting involved in this promising industry, which has become more competitive than ever (Lim et al., 2018). Connell (2006) specifies that the relatively low cost compared to developed countries, the advanced technologies deployed, the competence of the doctors, the reduction of the transport tariffs as well as the ease of the procedures, are the principal motivations of medical tourists towards developing countries.

Promoting a country as a reliable medical destination requires a laborious marketing strategy on the part of everyone involved in medical tourism and particularly in this highly competitive context. The objective of this article is to examine, in the first part, the importance of conveying a positive image of the destination and its impact on the medical tourism sector. Indeed, the image of the destination seems to play a decisive role in the choice. Pike & Page (2014) claim that the medical tourist not only looks for information on the most reputable doctors or clinics, but also attaches crucial importance to the destination image in general. This would strengthen its medical image and in this case the intention to travel for medical purposes (De La Hoz-Correa & Munoz-Leiva, 2018). In the same way, Chaulagain et al. (2021) found that country image and perceived quality of medical tourism services had the greatest positive influence on Americans' intention to travel to Cuba for medical purposes. Rasoolimanesh et al. (2021) argue that the COVID 19 pandemic has significantly increased the fears of potential tourists and in particular for those who are not familiar with the destination and do not have past experience. They found a strong correlation between the image of the destination and variables such as crisis management in relation to the pandemic, confidence in the health system of the country in question. Perdana Kusumah et al. (2022) confirm the crucial role of destination image on the

intention to revisit Belitung Island and in particular after the COVID 19 pandemic. The authors add that tourism operators must develop a relevant marketing strategy to improve the image of the destination in the tourism market. Zheng et al. (2021) found that tourist perceptions can be influenced by negative and misleading media information about the health situation of a destination. This leads us to emphasize the importance of the media in forming the destination image and their role in the tourist's decision-making process, and in this case, in the medical field, hence the aim of the second part of this article. We propose to discover the information sources most consulted by medical tourist. Our goal is to present to all stakeholders of medical tourism an overview of the information sources requested by these people who seek answers to their questions, as well as a psychological comfort, very necessary to allay their anxieties and help them to take the plunge. The literature review provided several information sources in the field of medical tourism. Gill & Singh (2011), Singh (2013) found that the sources most cited by respondents were: electronic word of mouth (eWom), opinions from doctors and relatives, testimonials from former patients, foreign clinics web sites, promotional videos from tour operators, television reports, posters and brochures. In this article, we propose to study the impact of three information sources on the persuasion of the patient tourist: electronic word of mouth, which we will note throughout this article (eWom), traditional word of mouth (Wom) and commercial sources (Cs). The comparative study between these information sources will allow us to classify them according to the order of preference of our target group composed of individuals interested in traveling abroad to receive medical care or who have aready had this experience. The results will tell us the most credible sources that would reduce uncertainty in decision making.

1. THE IMPACT OF THE DESTINATION IMAGE ON ITS MEDICAL IMAGE

Bojanic, (1991) defines the image of the destination as being the impressions that people hold about a destination in which they are not resident. Baloglu & McCleary (1999), Lee (2009), think that the destination image is the main indicator of choice of a destination. Lee & Lockshin (2011) confirm that the destination image has a halo effect on the perception of the quality of the products and services of the same destination. In other words, individuals can extrapolate their perception of the image of a destination to all the services offered in that country. In the field of medical tourism, the destination image seems to play a determining role in the intention to travel. Khan et al. (2016) confirm that the destination image affects the intention to travel for medical purposes. These authors explain that medical tourists are more risk averse than other types of tourists, which is why these individuals seek a serene and safe environment. In the same vein, Cham et al. (2021) found in their study that country-specific factors such as safety, security, accessibility, price reasonableness, play a significant role in the perception of Malaysia as a reliable medical destination by Chinese tourist patients. These results are consistent with several previous studies on the factors influencing destination image. Beerli & Martin (2004) cite factors such as natural sources, general infrastructure and tourist infrastructure, culture, economic and political factors, social environment (hospitality of the population, languages spoken, quality of life, etc). More recently, Asadzadeh et al. (2021) indicated infrastructure, landscape, and structure as three main city branding dimensions in health tourism development. Králiková et al. (2020) found that the most influential factor is the sense of security. Rahman et al. (2022) confirm that in the field of medical tourism, factors such as infrastructure, currency value, quality of services, contribute significantly to the satisfaction of the patient tourist and increase the intention to revisit the destination for a medical purpose.

Several studies have focused on modeling the touristic destination image. Gartner (1994), Walmsley & Young (1998), Baloglu & McCleary (1999), Beerli & Martin (2004), Byon & Zhang (2010), postulate that a destination image is composed of a cognitive component that refers to the different knowledge and beliefs concerning a specific subject and an affective component resulting in all the intangible attributes relating to the feelings created towards a place. These researches confirm that the cognitive component is the antecedent of the affective component and that the combination between these two components forms the overall image. Sönmez & Sirakaya (2002) argue that the cognitive image is formed before the affective image. The tourist can construct a cognitive image through several sources, while the affective image is a result of the cognitive image or of a previous experience. These findings have been confirmed in the medical field, De La Hoz - Correa & Munoz-Leiva (2018) found that the cognitive image of a destination influences its affective and overall image. These authors also confirmed that the cognitive image, the affective image as well as the overall destination image have a considerable impact on the destination medical image and on the intention to travel for a medical purpose. Duan & Lai (2022) found that the cognitive destination image significantly influences the formation of the affective, overall, and conative images of the GBA region (Greater Bay Area China). In the same sense, Sönmez (1998) maintains that the process of forming the cognitive and affective image must be studied and in particular in the case where the individual feels threatened. He confirms that knowing this process would allow stakeholders in the tourism sector to correct negative perceptions and diffuse positive emotions. Gartner (1994) states that the destination image-forming process is a continuum of several information sources that act independently to ultimately form an image in people's minds. This author classifies these sources into four sources 1 / Induced sources which are relayed in the mass media, official institutions, tour operators, etc. 2 / hidden sources, using celebrities, articles or reports. 3/autonomous sources such as news, documentaries. 4 / organic sources such as family, friends, work colleagues, etc. This author confirms that the cognitive destination image is essentially influenced by autonomous and organic sources. These results are shared by several researchers in the field of medical tourism (Jacobsen & Munar, 2012, Abubakar & Ilkan, 2016, Farrukh et al., 2020). In fact, these authors have shown that the most decisive information sources in the formation of the medical destination image and subsequently the impact on travel intention are word of mouth (Wom) and electronic word of mouth (eWom). Commercial sources would have less impact on forming a good medical image and intention to travel for medical purposes.

Following the review of the literature, we propose the following hypotheses:

H1- The destination image is significantly correlated with its medical image.

H1-a- The cognitive image of the destination is significantly correlated with its medical image

H1-b- The affective image of the destination is significantly correlated with its medical image

H1-c- The overall image of the destination is significantly correlated with its medical image.

H2- The destination image significantly influences the intention to travel for medical purposes

H2-a- The cognitive image of the destination significantly influences the intention to travel for medical purposes

H2-b- The affective image of the destination significantly influences the intention to travel for medical purposes

H2-c- The overall image of the destination significantly influences the intention to travel for medical purposes.

H 3 The medical image of the destination is significantly correlated with the intention to travel

2. THE ROLE OF INFORMATION SOURCES IN REDUCING THE PERCEIVED RISK AND FORMING THE MEDICAL IMAGE OF THE DESTINATION

In the field of tourism, the impact of information sources is the subject of several recent research studies. Farrukh et al. (2020) consider information sources to be stimulus for decision-making. This finding is all the more important in the specific field of medical tourism, where the need to find out about the chosen destination is very urgent and where the search is more meticulous and involves several details in relation to all aspects of the journey. However, there may be multiple sources of information, hence the objective of the second part of the article, which is to discover the information sources most sought and most reliable by the medical tourist.

2.1. Traditional word of mouth (Wom)

Silverman (2001) defines Wom as an informal communication between individuals who have no interest in persuading other individuals to use a given product or service. Lutz & Reilly (1974) found the Wom to be the most important source of information used when purchasing a high-impact product. These authors classified the information sources in order of importance as follows: 1 / the Wom, 2 / Advertising in the media, 3 / magazine articles, 4 / sellers. Bone (1995) also asserts that the Wom is the most influential information source when the perceived risk is high and when the decision is ambiguous. More recently, Caron-Bouchard (2013) conducted a study among young Canadians on the search for health information. Results indicate that respondents have great confidence in personal sources such as family, friends, colleagues as well as healthcare professionals. Indeed, the face to face can provide empathy, socio-emotional ties that can be essential especially when it comes to health. These findings are shared by Herr et al. (1991), who explain that the Wom has an influence on the judgment of the consumer thanks to a characteristic, that resides in its vividness which implies that the information is closer emotionally and spatially to the person. Ishida et al. (2016) found that traditional Wom has a greater impact on the destination image in comparison with eWom and commercial sources. Ishida et al. (2016) also confirm that Wom is the primary source consulted by their sample. Indeed, they found that 43.5% of 976 people who have already visited Branson in the United States say Wom is the first source consulted. These authors add that traditional Wom has the highest impact on image formation of the destination. Jeong & Jang (2011) do not share these results, they postulate that the eWom is the most efficient source because of its wide accessibility as well as its reliability. In the field of medical tourism, Yeoh et al. (2013) highlighted, in their survey of 470 tourist patients in Malaysia, the role played by Wom in the choice of the country as a medical destination. These authors found that 44.5% of respondents referred to friends for advice, 37.7% mentioned family as being the first source consulted and 24.5% cited doctors from their countries of origin as the first source requested. These results were also found by Azimi et al. (2017) who interviewed 136 tourist patients staying in Mashhad hospitals in Iran. 55.9% of respondents cited friends and relatives as their primary information source, 38.2% said they followed their doctors' recommendations and only 5.9% were drawn to other information sources. More recently, De La Hoz-Correa & Munoz-Leiva (2018) found that traditional Wom, like reviews from family, friends and local doctors, was the top source cited by 42.5% of the 534 respondents, followed by eWom which is cited by 30.5% of respondents as the most consulted source. The mass media were cited by 7.1% and brochures by 4.5%.

H4 - The positive Wom is the most important information source, which reinforces the medical image of a destination.

H5- The positive Wom is the most important information source, which contributes significantly to increasing the intention to travel to a determined medical destination.

2.2. The electronic word of mouth (eWom)

The development of information and communication technologies (ICT) has made it possible for individuals to share their opinions and experiences with other individuals through communication channels such as blogs, social networks, discussion forums, chatrooms, online reviews, emails, websites, instant messages, etc. (Schindler & Bickart, 2005, Blal & Sturman, 2014). Abubakar & Ilkan (2016) define eWom as a form of online memos posting consumer experiences. These memos have a great influence on the behaviour of potential consumers. Litvin et al. (2008) add that the importance of eWom lies in the fact that it

encompasses several characteristics such as anonymity, wide dissemination of information and unrestricted access anytime and anywhere. In tourism, eWom is particularly important because of the intangible nature of the offer and the fact that the product cannot be assessed before being consumed, which increases the perceived risk of the offer. Interpersonal exchanges and risk assessment by reference groups therefore take on a crucial aspect in the decision-making process (Lewis & Chambers, 2000). This observation is even truer in the field of medical tourism. Indeed, we are not talking about a failed trip or a disappointing experience, but a question related to the health of the individual and even to his life. This kind of service is called a credence service because its attributes are difficult to assess before consumption and even immediately after consumption (Darby & Karni, 1973). Mitra et al. (1999) consider that the information research process in the case of a credence service is different from that of an ordinary service. For this kind of service, personal sources such as friends, family are not sufficient. The consumer will need another type of non-personal information in order to learn about the qualification, experience and expertise of the provider of this service, hence the use of eWom, particularly in the field of medical tourism. Singh (2013) reported that 91% of respondents to his survey said they had researched the Internet regarding a specific medical destination. Choi et al. (2018) found that eWom is the primary information source for Emirati tourist patients before visiting South Korea. Indeed, 60.6% of patients declared that the first information source that determined the choice of destination and clinic was the eWom. Potential medical tourists consider the eWom to be the most reliable source of information and in which they can find the sincerest answers (Farrukh et al., 2020). Zarei & Maleki (2019), Law (2006) show that a high-risk perception significantly affects the intention to travel to a specific destination and contributes to the spread of negative eWom, which would have drastic repercussions on the medical image of the destination and in this case the intention to travel. On the other hand, positive feedback decreases the perceived risk and considerably increases confidence in a destination (Ladhari & Michaud, 2015). In the same sense, Jacobsen & Munar (2012) argue that the intangibility and uncertainty related to the results of the medical act, increase the need to reduce the risk by taking comfort from people who have already gone through this experience in the destination in question. Abubakar & Iklan (2016) also confirm that eWom helps reduce risk and uncertainty and thus becomes an important antecedent for evaluating the medical destination image.

Jalilvand & Samiei (2012) have confirmed in their study the impact of the eWom on the intention to travel, they found that the positive eWom acts on all the components of the model of the planned behaviour TPB (Theory of planned Behaviour) developed by Ajzen (1991) concerning the decision-making process and who postulates that behaviour is influenced by three factors which are 1 / attitude towards behaviour, 2 / subjective norms and 3 / perception of control. These three factors must interact in order to produce behaviour change. Indeed, according to Jalilvand & Samiei (2012) the eWom has a direct effect on the attitude towards a destination as well as on the subjective norms which result in the importance given to social norms, such as family, friends, to make the right decision and finally on the feeling of perception of control which leads to the feeling of self-efficacy in making the right decisions.

Taking into account the review of the literature on the impact of eWom on decision-making and the occurrence of the intention to travel for medical purposes, we propose the following hypotheses:

> H6- The positive e-Wom is the second information source that reinforces the medical image of the destination.
> H7- The positive e-Wom is the second information source that significantly contributes to increasing the intention to travel to a determined medical destination.

2.3. Commercial sources

The effectiveness and persuasiveness of commercial communications are often judged inferior to other forms of non-commercial communications such as Wom or eWom, because of the financial and promotional incentives attributed to this form of communication (Lutz & Reilly, 1974, Bone, 1995, Mitra et al., 1999, Gill & Singh, 2011, De La Hoz-Correa & Munoz-Leiva, 2018). This is even truer in the field of medical tourism where the perceived risk and the degree of uncertainty are important. However, this does not diminish the importance of commercial communication and the decisive role it can play in reassuring medical tourists by providing them with credible and precise information. Several studies have looked into the effectiveness of websites dedicated to promoting services related to medical stay and they agree to say that these sites must emphasize the skills of the medical and paramedical professionals as well as on the advanced technologies available (Crooks et al., 2011, Mason & Wright, 2011). The sites must also provide a space for interaction between medical tourists in order to share their experiences and to submit their recommendations and possibly their complaints. Mention of hospital accreditation on websites can help decrease perceived risk. Indeed, the accreditation or certification of hospitals is a main concern for foreign patients (Mason & Wright, 2011, Menvielle et al., 2009). These authors add that the accreditation obtained by organizations such as " the Joint Commission International " and " the International Organization of Standardization " reinforces the credibility and confidence in the medical services offered. Menvielle et al. (2009) add that websites must include a space where interested people can exchange their opinions and experiences in full transparency. These authors consider that this space is a good risk moderator and Internet users can find the information they are looking for there and even play the role of prescribers among themselves. Mason & Wright (2011) and Penney et al. (2011) also noted that the websites of the medical providers they visited are clearly oriented towards the sale of medical services. These authors suggest that these sites should contain information such as the different treatment or care options from which the medical tourist may benefit, the possible risks for each type of intervention. Indeed, these authors believe that informing about the risks involved can add credibility to the website.

The websites of medical service providers are a key source in commercial communication, however, there are other sources which remain important, such as brochures, booklets, e-mails, face-to-face conversations (Penney et al., 2011). Crooks et al. (2011) were interested in the content of promotional print material distributed in trade fair to promote a medical destination. They argue that it is necessary to include in these media mentions on the accreditation of clinics, photos of hospitals from the outside and inside, modern equipment, visits with doctors, nursing staff, etc. Rerkrujipimol & Assenov (2011) highlight the importance of fairs in promoting a destination abroad. According to these authors, these events must be supported by the government, the media and the journalists, for the development of a positive image abroad.

H8- Commercial sources are the third information sources that strengthen the medical image of the destination.

H9- Commercial sources are the third information sources that significantly contribute to increasing the intention to travel to a specific medical destination.

Based on these hypotheses, we propose the following model in figure 1:

Figure 1: **Proposed model**
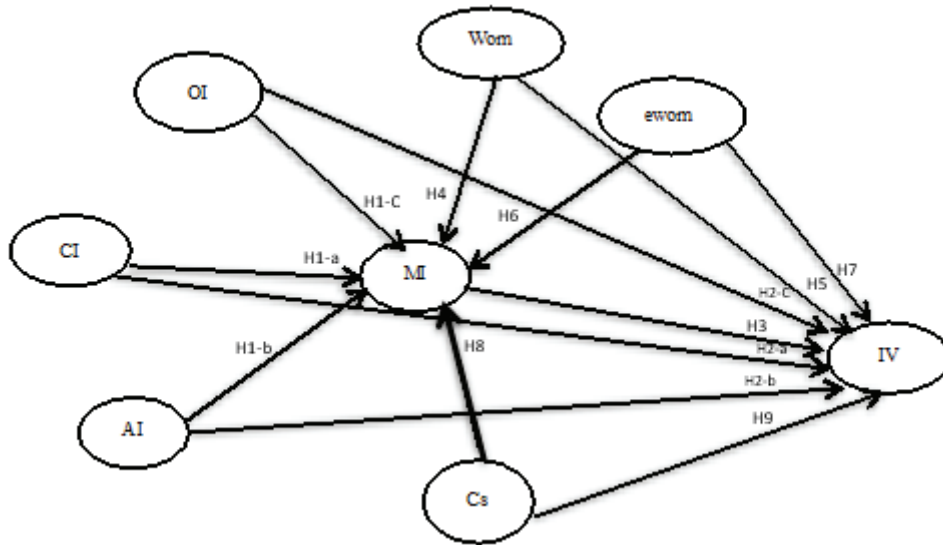
Acronyms:
CI: Cognitive image; **AI**: Affective image; **OI**: Overall Image; **MI**: Medical image; **eWom**: electronic Word of mouth; **Wom**: Word of mouth; **Cs**: Commercial sources; **IV**: Intention to visit

3. RESEARCH METHODOLGY

3.1. Context

The survey was carried out among respondents who have already undergone surgery outside their country or who plan to do it in the near future. The choice of Tunisia is based on the fact that it is one of the emerging countries which attach particular importance to medical tourism and which is a pioneer in North Africa for its various services. According to the "National Tunisian Tourism Office" (ONTT) report in 2017, Tunisia receives nearly 500,000 foreign patients annually. However, competition is becoming increasingly fierce, particularly from neighbouring countries such as Morocco. An improvement in its marketing strategy and its approach to potential medical tourist is essential.

3.2. Aims of the study

The purpose of this study is to test the hypotheses on the impact of the destination image and the information sources, on the medical image and the intention to travel for a medical purpose. Indeed, very little research has jointly studied these three information sources in order to compare their impact on the decision-making process in the field of medical tourism.

3.3. The sample

The data collection was carried out for 3 months, from July to October 2021 on tourists who have already made a medical stay abroad or intend to travel abroad for a medical purpose. We have chosen the convenience sampling method to recruit our respondents. Data collection was exclusively on the Internet. The questionnaire, designed on Google Forms, was shared

on several sites and medical forums like Doctissimo. We posted the questionnaire in French, English and Arabic on forums dedicated to sharing experiences and opinions on travel to Tunisia for medical purposes as well as on other medical tourism forums. We also posted this survey on the pages of private groups on social networks such as « Chirurgies Esthétiques Vos témoignages & expériences en Tunisie », « Vos témoignages et avis sur la chirurgie esthétique en Tunisie », « Forum chirurgie esthétique en Tunisie ». Participants post their testimonials and share their experiences on the various medical acts they have performed or intend to perform in the near future.

Several nationalities responded to our questionnaire. The number of questionnaires retained is 247. We have eliminated all questionnaires completed by respondents who do not intend to travel abroad for medical purposes. In fact, we asked a filter question at the beginning of the questionnaire in order to retain only those who have already had this experience or who intend to do so in the near future.

3.4. Measurement scales

The cognitive image of the destination is measured by a 4-item scale, used by Lee & Lockshin (2011) to measure the image of Australia. The items come from multiple works: Gartner (1994), Baloglu & McCleary (1999), Sönmez & Sirakaya (2002), Beerli & Martin (2004). The affective image is measured by a bipolar scale of 2 items, based on the work of Russel and Pratt (1980), Hanyu (1993). The overall image is measured by a bipolar mono-item scale from the work of Baloglu & McCleary (1999). The variable medical image of the destination was measured by a scale of 8 items taken from the empirical work of Garbarino & Johnson (1999), Morgan & Hunt (1999), Delgado-Ballester (2004) with an adaptation to medical tourism, carried out by Abubakar & Iklan (2016). The variable eWom is measured by a six-item Likert scale, developed by Bambauer-Sachse & Mangold's (2011) and adapted to the tourism sector by Jalilvand & Samiei (2012). Three-items scale was used to measure the traditional Wom, based on the research of Ishida et al. (2016) in the field of tourism and Baloglu & Mc Clearly (1999), Gill & Singh (2011), Singh (2013) in the field of medical tourism. For commercial sources, we have cited sources cited in the field of medical tourism from the work of Gill & Singh (2011), Singh (2013), Ishida et al. (2016), De La Hoz-Correa & Munoz-Leiva (2018). All items were rated on a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree).
The item statements are in Table A (Appendix).

4. RESULTS

Data analysis was performed with SPSS Version 22.0 and Amos Version 22.0. A factor analysis was designed to examine the psychometric properties of the measurement scales. Then the proposed model was estimated with AMOS which is conceived to estimate and test structural equation models (SEM).

4.1. Sociodemographic profile of respondents

Information was collected from 247 people who claim to have undergone medical treatment abroad or that they intend to do so in the near future. Several people of different nationalities agreed to answer our questionnaire (table 1).

Referring to several studies in the field of medical tourism, the most relevant socio-demographic variables are age, gender, level of education, current occupation, average income. Indeed, several studies have used these variables to describe their samples (De La Hoz- Correa & Munoz-Levin, 2018). Other studies have measured the moderating effect of some of these variables on destination trust and travel intention (Abubakar & Ilkan, 2016, Tapia et al., 2022, Wangai et al., 2022). As part of our research we studied the socio-demographic variables of our sample to give an overview of the different profiles of our respondents. This can inform medical tourism actors about the socio-professional and sociodemograpic categories most interested in medical tourist. Table 2 summarizes the sociodemographic profile of respondents:

Table 1: **Distribution of respondent's nationalities**

Country	Frequency	Percentage
France	43	17.4%
Russia	53	21.5%
United Kingdom	21	8.5%
Algeria	62	25.1%
Morocco	16	6.5%
Lybia	29	11.7%
Germany	13	5.3%
Others	10	4%

Table2: **Sociodemographic characteristics of respondents**

	Frequency	Percentage
Gender		
Female	132	53.4%
Male	111	44.9%
Age		
Under30	28	11.3%
31- 40	102	41.3%
41- 59	85	34.4%
Over 60	32	13%
Education		
Secondary level	99	40.1%
University level	124	50.2%
Other	24	9.7%
Current Occupation		
Student	24	9.7%
Employed	97	39.2%
Liberal profession	89	36%
Unemployed	12	4.9%
Retired	20	8.1%
Other	5	2%

Respondents who answered this questionnaire must have already taken a trip abroad for medical purposes or they intend to do so in the near future. The results are summarized in Table 3:

Table 3: **Travel abroad for medical treatment**

	Frequency	Percentage
Yes, I traveled abroad for medical treatment	102	41.2%
I'm planning to travel abroad for medical treatment	145	58.7%

4.2. Factor loading and reliability analysis

Factor analysis was used to test for internal consistency of 6 variables of the study. Measurement of the «overall image» variable was done using a single-item scale. The «Commercial Sources» variable includes commercial sources cited in previous studies in the field of medical tourism. The study of reliability between the different sources is not relevant as they are not a scale. Our goal is to discover the sources most sought by our respondents. All scales of this study were found to be unidimensional. The factor loading values were all greater than 0.7. The Kaiser-Mayer-Olkin Measure of Sampling Adequacy (KMO) of all variables was significant (above 0,5) and the Bartlett's Test of Sphericity value was also significant which indicate an appropriate validation of the factor model. High communalities were observed for 7 variables indicated that all extracted factors represent the variable well.

In addition, Cronbach's alpha coefficients of all 6 factors were greater than 0.8 that revealed a high internal consistency. However, 2 items were dropped from medical image scale: (« Tunisian hospitals would make any effort to satisfy me », and «Tunisian hospitals would compensate me in some way in case of injuries after service.) because of their low communalities: 0,34 and 0,41.

Table 4: **Factor loading and relialbility analysis**

Variables	Items	Communalities	Loadings	Cronbach's α
CI	CI1	0.845	0.714	0.940
KMO = 0.846	CI2	0.927	0.859	
Total variance = 83.41%	CI3	0.954	0.910	
	CI4	0.939	0.881	
	CI5	0.898	0.806	
AI	AI1	0.966	0.934	0.894
KMO = 0.5	AI2	0.966	0.934	
Total variance = 93.4				
MI	MI1	0.880	0.774	0.847
KMO = 0.896	MI2	0.911	0.830	
Total variance = 66.6%	MI3	0.852	0.726	
	MI4	0.895	0.801	
	MI5	0.905	0.819	
	MI6	0.872	0.761	
	MI7	*	*	
	MI8	*	*	
Ewom	Ewom1	0.948	0.899	0.941
KMO = 0.901	Ewom2	0.925	0.855	
Total variance = 79.858%	Ewom3	0.941	0.885	
	Ewom4	0.906	0.821	
	Ewom5	0.709	0.503	
	Ewom6	0.911	0.829	
Wom	Wom1	0.892	0.795	0.807
KMO = 0.683	Wom2	0.807	0.752	
Total variance = 72.132%	Wom3	0.847	0.717	
Iv	Iv1	0.956	0.914	0.951
KMO = 0.762	Iv2	0.942	0.888	
Total Variance = 91.175%	Iv3	0.966	0.934	

* dropped items

4. 3. Results of hypotheses and discussion

To get an idea beforehand on the most consulted information sources, we asked respondents to indicate the most reliable information source, in their opinion, during their decision-making process. The responses indicated that the most cited source was "comments posted on the Internet" 27.9% followed by family 21.5%. Nevertheless, we noted that the sources of the Wom (family, friends and colleagues, local doctors) represent 49.9% of the total responses, as for the Internet sources (testimonials from former patients, comments posted on the Internet) 40.5% of respondents consider these sources to be the most reliable. For clinic websites (commercial sources) ", only 6.5% of the sample consider them as the most reliable source; as to government sources, 3.2% of respondents cited them as the most reliable source. These findings show a great importance placed on comments posted on the Internet and traditional Wom and the relatively low trust placed in commercial or official information sources.
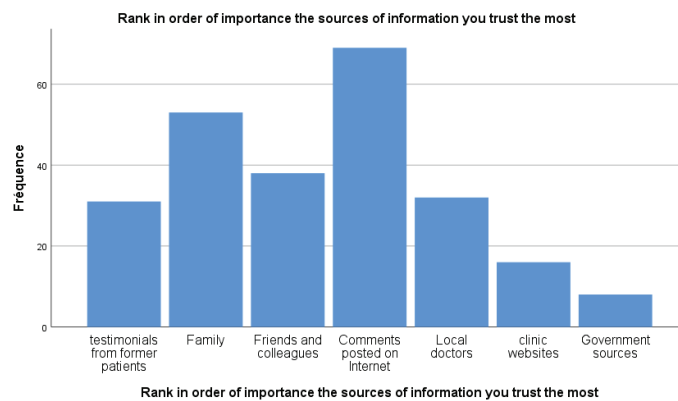
Table 5 and Figure 2 illustrate these results.

Table 5 **: Source information reliability**

	Frequency	Percentage
Testimonials from former patients	31	12,6
Family	53	21,5
Friends and colleagues	38	15,4
Internet	69	27,9
Local doctors	32	13,0
Clinic websites	16	6,5
Government sources	8	3,2
Total	247	100,0

Figure 2: **The most reliable source of information**

4.3.1. Structural model

The model was estimated using the Amos V.22.0, It determines the validity of measures and the relationships between constructs. This method has an advantage over other analytical methods such as simple or multiple linear regressions, in so far as it allows the estimation of errors, the simultaneous processing of linear equations and the evaluation of the quality of the model fit (Hulland et al., 1999, Roussel et al., 2002). The indices are summarized in Table 6:

Table 6: **Indicators of overall model fit**

Indices	CMIN / DF	GFI	AGFI	CMA	RMSEA	NFI	CFI
	2.95	0.97	0.913	0.024	0.042	0.91	0.882

Fit indicators are acceptable. Indeed, according to the work of Roussel et al. (2002), Evrard et al. (2003), these indicators must respect precise values. For our model, the normed Chi-square is equal to 2.95 <5, the GFI, AGFI and NFI indices are greater than 0.9, while the CFI index is slightly less than 0, 9. Indeed, these indicators are very sensitive to the size of the sample and to the number of indicators studied (Roussel et al., 2002). For the RMR and RMSEA indices, they are less than 0.08.

4.3.2. Validation of the hypotheses

The results of the hypotheses are presented in the table below:

Table 7 : **Standardized coefficient**

Hypotheses	Standardized coefficients	CR	P-value
H1a- CI → MI	0.273	8,041	0.000
H1b- AI → MI	0.183	6,636	0.000
H1c- OI → MI	- 0.086	-2,443	0.076

Hypotheses	Standardized coefficients	CR	P-value
H2a- CI → IV	0.132	3,219	0.02
H2b- AI → IV	0.115	3,143	0.000
H2c- OI → IV	0.19	4,025	0.012
H3- MI → IV	0.311	9,316	0.000
H4- Wom → MI	0.168	2,146	0.000
H5- Wom → IV	0.173	3,739	0.047
H6- eWom → MI	0.232	14,594	0.012
H7- eWom → IV	0.114	4,025	0.000
H8- Cs → MI	0.084	1,793	0.025
H9- Cs → IV	-0.066	-2,507	0.073

4.3.3. Discussion

As noted above, we collected information from people who intend to travel for medical purposes in the near future and who have already started their information search process (58,7%) and also from people who have already had this experience (41.2%). Hypothesis H1 includes three sub-hypotheses relating to the impact of the destination image on its medical image. The results showed that the cognitive image positively contributes to the formation of the medical image. Indeed, 27.3% of the medical image of a destination is explained by the cognitive image. 18.3% of the medical image is explained by the affective image. The hypothesis H1c about the relationship between the overall image and the medical image was not significant (P = 0.076> 0.05). These results confirm the determining role played by the destination image in the formation of the medical image. Indeed, the cognitive image can be assessed on attributes such as security, attractiveness, services, infrastructure, the hospitality of its people, the climate, (Gallarza et al., 2002, Beerli & Martin, 2004, Baloglu, & Mangaloglu, 2001, Asadzadeh et al., 2021, Rahman et al., 2022). A good cognitive image helps to form a positive image of the destination in general, which can be extrapolated to its medical image. This result has been confirmed by several researchers in the medical field, such as Zhang & Lee (2016) and Khan et al. (2016), who confirm the importance attached by medical tourist to the cognitive image of the destination. The affective image contributes significantly (18.3%) to the explanation of the medical image. This rate is important, and it reflects the importance of taking into account intangible attributes such as the charm of a destination.

Ratnasari et al. (2020), argue that, in addition to the quality of medical services, medical tourists attach great importance to other attributes such as attractions related to culture, gastronomy, nature. etc. In the same way, Vashu et al. (2018) found that the destination image is vital to differentiate a destination from competing countries and in particular for the medical tourists whose stay is generally longer than other tourists and therefore they will need more amenities regarding services and accommodation.

The results of the second hypothesis, postulating the impact of the destination image on the intention to visit for a medical purpose, once again results confirm the importance of the destination image and in particular the cognitive image on the decision-making of the medical tourist. In fact, for hypothesis H2a, the results indicate that 13.2% of the intention to visit is explained by the cognitive image, 11.5% of the intention to visit is explained by the affective image. While 19% of the intention to travel for a medical purpose, is explained by the overall image. The destination image, with its cognitive and affective dimensions, contributes significantly in the positive / negative perception of the medical image of the country as well as the intention to travel.

For hypothesis H3 postulating that the medical image of a destination influences the intention to travel. The result showed that 31.1% of the intention to travel is explained by its medical image. This result is expected because the greatest determinant of decision-making is the fact of being convinced and reassured that the medical services are up to the expectations of the medical tourist and which optimizes the chances of the success of the medical treatment.

For hypotheses H4 to H9, we proposed to study the role of the different information sources (Wom, eWom, commercial sources) on the 1/medical image of the destination, and, 2/ on the intention to visit the country for medical purposes. We also assumed that the Wom would be the source that has the greatest influence on these two variables (H4 and H5). Hypotheses H4 and H6 are not validated. The results indicate that eWom is the first information source, which strengthens the medical image: 23.2% against 16.8% for the Wom. The growing importance of eWom has been the subject of several studies in the field of medical tourism, which have highlighted its importance (Abubakar & Ilkan, 2016, Abubakar et al., 2017, Choi et al., 2018). Indeed, the eWom is generated by Internet users who exchange their experiences, questions, disappointments, satisfactions, via social networks, discussion forums, etc. The non-profit motivation of these exchanges gives this media considerable trustworthiness and therefore acts more strongly than other media on the appreciation of the medical image of a destination. The hypothesis H8 postulating that the commercial sources (see the list in Annex A1) occupy the third place in the evaluation of the most reliable

sources has been validated. Our results indicate that 8.4% of the medical image is explained by commercial sources. This result is shared by several studies, which find that the profit- motivation of commercial sources can decrease their persuasiveness. However, their role remains very important in the information and promotion of the medical care. Ratnasari et al. (2020), claim that hospitals should communicate a positive image of their establishments. They add that the accreditation of hospitals is strongly recommended for the reliability of their image.

Concerning hypotheses H5 and H7, on the influence of eWom and Wom on the intention to travel, they were validated. Hypothesis H9 is not significant (P = 0.073> 0.05). We assumed that the traditional Wom would have the greatest influence on the intention to visit the destination for medical purposes, followed by eWom and last, commercial sources. The results found confirm the hypotheses H5 and H7. The traditional Wom and the eWom respectively explain 17.3% and 11.4% of the intention to travel. This result shows the importance given to relatives and in particular the family when making a decision. Even though the results indicated that eWom is the most reliable source for medical image formation, but at the final stage of decision-making, traditional Wom is the most impacting factor. Indeed, traveling for a medical purpose requires courage and psychological support. The support of relatives and their approval could decrease the risk perception and help them in making an important decision.

CONCLUSIONS AND MANAGERIAL IMPLICATIONS

The impact of the destination image and the role of information sources in a destination promotion, have been widely studied in the field of tourism. The literature relating to these variables in the field of medical tourism is still sporadic. This sector is growing in size and opens up important perspectives for several tourism brokers and effectively contributes to generating profit for several stakeholders. Therefore, studies on the behaviour of medical tourist, is essential to develop adequate marketing strategies.

This study aimed to highlight the impact of the destination's image on its medical image and on the intention to travel for medical purposes. The results were interesting. We have found several significant relationships that confirm the close link between the cognitive and affective image of a destination and its medical image. The results also indicated that the image of the destination significantly influences the intention to travel. In fact, factors such safety, infrastructure, friendliness of the people, tourist establishments, quality of services, climate, etc., are essential to build a relationship of trust that can be extrapolated to other fields and in this case to medical tourism. Cham et al. (2021) show that country-specific factors (country knowledge, safety and security, accessibility, and price reasonableness) and social factors (word-of-mouth and social media) are significant predictors to assess medical tourism destination, which in turn, affect perceived value and intention to revisit. This leads us to insist on the role of all tourism stakeholders in reflecting a positive image of their countries. It also makes it possible to reach new unconventional markets whose potential is important for the country. It is recommended to communicate effectively about the strengths of the country, not only medically, which would increase familiarity with the destination by lowering the perceived risk and setting the stage for the promotion of the country as a reliable medical destination.

The second part of this work is devoted to the exploration of the most consulted information sources to collect information. Indeed, in order to optimize their communication strategies, tourism stakeholders must have a good understanding of the path of tourist patients in their information search process. Zhong et al. (2021) pointed out that it is important to know the different information sources that are most accessible and in which patients would have more confidence in order to communicate effectively with them and correct misleading information. However, we must be aware of the target evolving needs for information and the most consulted channels to help them make a decision. We have assumed that personal sources such as family, friends or doctors from home countries are the sources the target trusts the most, followed by non-commercial sources on the Internet (eWom) and finally commercial sources. Our results showed that respondents attach high importance to the first two information sources with a slightly higher preference for eWom sources. This result is not surprising considering the increasingly growing role of social networks and discussion platforms. Indeed, the advent of these new information sources has changed consumer behaviour and created new habits that healthcare professionals must consider as a priority in their digital communication strategies. These results are confirmed in the research of Su et al. (2022), who found that online reviews are a decisive information source in destination choice. These authors add that negative reviews are more amplified in the field of tourism compared to other products because of the high perception of risk during decision making. These negative reviews significantly reduce trust in the destination. Tourism stakeholders must follow all exchanges and reviews posted on social networks or other platforms to adapt their communication strategy to the information needs of the target. It is necessary to establish a procedure to collect and analyze negative feedback in order to quickly resolve the issues raised. It is also important to value positive comments and share them in different social networks.

Commercial sources, although considered, by our sample, to be the least reliable sources compared to eWom and Wom, they remain an important marketing tool for attracting and motivating medical tourists. These information sources from the websites of hospitals, medical tourism agencies, government sites, should provide specific information to foreign tourists on the costs of the whole stay, the accommodation services for the patient and his companion, the post-operative follow-up in the country

of residence (Moghavvemi et al., 2017). To optimize the effectiveness of communication, medical tourism professionals must take into account the information most sought after by tourist patients. Crooks et al. (2011) argued that tourist patients primarily seek information on procedures, costs, accreditation and affiliations, accommodation and linguistic competence. Commercial sources must satisfy their need for information by providing effective content highlighting the quality of the various services offered. Moghavvemi et al. (2017) suggest that the websites of different tourism actors should include visual evidence such as photos of medical staff, operating rooms, catering areas, etc. and textual evidence like posting testimonials from satisfied patients. With the same idea, Laroche et al. (2003), found that mental intangibility is likely to lead to the highest perceived risk. These authors recommend using mental imagery to reduce the perceived risk associated with mental intangibility as well as to promote intangible products. In the field of medical tourism, photos of nursing staff, clinic infrastructure, hotel rooms, etc., could reduce this mental intangibility by facilitating the projection and acting on the cognitive and affective variables. (Laroche et al., 2003, Menvielle et al., 2009). Qolipour et al. (2018), argue that medical tourism actors must carry out a study to determine the gap between medical tourist expectations and their perceptions of the various services offered, such as the competence of medical staff, transparency in the handling of complaints, the empathy of nursing staff, the credibility of information on the clinics' website, post-operative follow-up, transport service and adequate accommodation. A knowledge of the real perceptions of tourist patients will reduce the gaps between expectations and the services received, which will have positive repercussions on the satisfaction of these patients and the dissemination of positive information via the Wom and the eWom.

This research consolidates other research on the role of the destination's image in the medical tourism sector. It is essential to promote the image of the whole country in general and it is a strategy that must be jointly carried out by the government and all tourism stakeholders. Reflecting an attractive and seductive image will have a positive impact on the medical tourism sector in the short and long term. This study also highlighted the importance of eWom and Wom on tourist patient persuasion. The medical tourism industry needs to listen to people who have started the process of information seeking in order to understand their requirements and try to alleviate their fears. Actors need to develop a synchronized and effective online and offline strategy. All tourism stakeholders must jointly develop a strategy of satisfaction and retention of people already in place in order to ensure the propagation, via the traditional Wom and the eWom, of positive information and establish a reliable image of the medical tourism sector.

Limitations and future study recommendation

The limitations of this research include the small sample size and the non-use of a statistical sampling method. Indeed, we have chosen a convenience sample which limits the generalization of the results obtained. We found difficulties in collecting information because of the particular context of the Covid 19 pandemic; it was impossible for us to go directly to Tunisian clinics in order to interview tourist patients. We conducted our questionnaire exclusively on the Internet with people who have already had this experience or who are preparing to live it. A large proportion of respondents (58.7%) indicated their intention to travel for a medical purpose, which does not necessarily translate into effective action.

Future research could study the notion of perceived risk and country of origin as moderating variables in order to adapt an adequate strategy to each target. Indeed, risk aversion can be a cultural characteristic that could impact the process of seeking information. It would also be interesting to study new marketing methods to attract a target and convert them into a customer and even a prescriber, via inbound marketing tools which can be very effective in the field of medical tourism. It is important to identify interested people in order to better understand their needs and interact effectively with them.

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APPENDIX

Table A1

Construct and items

Image destination

Cognitive image

Tunisia is safe and secure
Tunisia offers exciting and interesting places to visit
Tunisia has beautiful scenery and natural attractions
As a tourism destination, Tunisia offers good value for money

Affective image

Unpleasant / Pleasant
Boring / Exciting

Overall Image

Very negative / Very positive

Medical image

Tunisia as a medical destination meets my expectations.
I feel confidence with Tunisian hospitals.
I will not be disappointed with Tunisian's healthcare services.
Tunisia hospitals guarantee satisfaction.
Tunisia hospitals would be honest and sincere in addressing my concerns
I could rely on Tunisian hospitals to solve my medical problems.
Tunisian hospitals would make any effort to satisfy me.
Tunisian hospitals would compensate me in some way in case of injuries after service

eWOM

I often read other medical tourists' online travel reviews to know what destinations make good impressions on others.
To make sure I choose the right medical destination, I often read other medical tourists' online travel reviews.
I often consult other medical tourists' online travel reviews to help me choose a good medical destination.
I frequently gather information from tourists' online travel reviews before I travel to a certain medical destination.
If I don't read tourists' online travel reviews when I travel to a medical destination, I worry about my decision.
When I travel to a medical destination, tourists' online travel reviews make me confident

Traditional WOM

I feel more comfortable traveling for medical purpose, when I have gotten opinions from my family and friends
When I consider traveling for a medical purpose, I ask other people face-to-face for opinions and advice.
When I consider traveling for a medical purpose, I ask doctors I know for opinions and advice.`

Commercial sources

Commercial websites
Testimonials from train patients posted on the clinic websites
Mass media
Medical tourism fairs and exhibition
Information from travel agencies of medical tourism.
Information from insurance company
Brochures, magazines, catalogs of medical tourism
Information Published by government institutions (eg Ministry of tourism)

Intention to Travel

I predict I will visit Tunisia hospitals in the future.

I would visit Tunisia rather than any other medical destination.

If I need medical attention I think, I will visit Tunisia hospitals in the future.