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Paula Odete Fernandes✉, Fernanda A. Ferreira; Flávio Ferreira; João Paulo Teixeira



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Medical Tourism and Modelling: A Bibliometric Analysis Based on a Scopus Database

Paula Odete Fernandes^{1, a)}, Fernanda A. Ferreira^{2, b)}, Flávio Ferreira^{2, c)} and João Paulo Teixeira^{3, d)}

¹UNIAG; Instituto Politécnico de Bragança, Bragança, Portugal

²Polytechnic Institute of Porto, School of Hospitality and Tourism; UNIAG, Porto, Portugal

³CeDRI; UNIAG; Instituto Politécnico de Bragança, Bragança, Portugal

^{a)}Corresponding author: pof@ipb.pt

^{b)}faf@esht.ipp.pt, ^{c)}fff@esht.ipp.pt, ^{d)}joaopt@ipb.pt

Abstract. The main goal of this paper is to systematically evaluate the bibliographic production on modelling, with an emphasis on medical and wellness tourism, to identify possible convergence of interests among health and tourism fields, from 2012 to 2021. This paper was based on a bibliometric analysis to find a relationship between medical and wellness tourism with data modelling based on a network citation analysis. The main findings showed: (i) a growing evolution of scientific production in recent years that address the medical tourism topic; (ii) a combination of important features of management of health services related to medical tourism, supported by forecasting data models may be a trend of future topics to be researched and developed as decision-making support.

Keywords: medical tourism; wellness tourism; modelling; bibliometric analysis.

INTRODUCTION

The topics of health and wellness tourism or medical tourism are subjects that have been in the research of recent years and growing in the literature, thus receiving intensified attention from academics and professionals worldwide. The global medical tourism market is expected to grow to \$21.93 billion in 2021 at a compound annual growth rate (CAGR) of 10.8%, and the market is expected to reach \$40.03 billion in 2025 at a CAGR of 16%; the growth is mainly due to companies resuming their business and adapting to the new normal while recovering from the impact of COVID-19 [1]. Appearing as a new type of alternative tourism, medical tourism has been involving persons who travel to another country intending to acquire non-emergency health services [2]. Medical tourism was defined as a set of activities in which a person travels long-distance or across a border to use medical services with direct or indirect involvement in leisure, business or other purposes [3]. Since its emergence, medical tourism has been reported to be one of the profitable tourism sectors in developing countries as a result of the benefits it offers both to medical tourists and the host country [4]. Medical tourism involves both the ‘desire to travel’ and the ‘desire to be treated’ as central processes in the new global health travel market and captures both the health sector and the wider economic impact of such travel [5]. Even though there is a lack of consensus among researchers regarding a unified definition of medical tourism, researchers agree that medical care and travel are the two components of medical tourism [3, 6]. Medical tourists benefit from potential savings and shorter waiting times when receiving medical treatment. On the other hand, the host country enjoys the revenue generated from health services and tourism. The revenue earned is vital for improving the quality of medical services and medical facilities in the host country [6].

In the present study, as its main goal, it was tried to analyse the evolution of the scientific production related to medical tourism and other words that are related to this phenomenon, such as wellness tourism, wellness destination and health tourism. The analysis conducted considers only scientific papers in peer review as the methodological approach linked to medical tourism and modelling. The conducted analysis attempts to define the trend and phenomenon to guide future research on the topic.

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RESULTS: A BIBLIOMETRIC ANALYSIS

TABLE 1. Descriptive information (Timespan 2012:2021)

In Figure 1 by order of magnitude also through the word cloud, one can see the interdisciplinarity and combination between the words related to medical tourism and data modelling and its trend.



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TABLE 2. TOP 10 publications and related impacts

Journal (TOP 10)	TC
Han, H., & Hyun, S. S. (2015). Customer retention in the medical tourism industry: Impact of quality, satisfaction, trust, and price reasonableness. <i>Tourism Management</i> , 46, 20-29. DOI: 10.1016/j.tourman.2014.06.003	232
Abubakar, A.M., & Ilkan, M. (2016). Impact of online WOM on destination trust and intention to travel: A medical tourism perspective. <i>Journal of Destination Marketing & Management</i> , 5 (3), 192-201. DOI: 10.1016/j.jdmm.2015.12.005	133
Abubakar, A.M., Ilkan, M., Al-Tal, R.M., Eluwole, K.K. (2017). eWOM, revisit intention, destination trust and gender. <i>Journal of Hospitality and Tourism Management</i> , 31, 220-227. DOI: 10.1016/j.jhtm.2016.12.005	85
Lee, M., Han, H. & Lockyer, T. (2012). Medical Tourism-Attracting Japanese Tourists For Medical Tourism Experience. <i>Journal of Travel & Tourism Marketing</i> , 29(1), 69-86. DOI: 10.1080/10548408.2012.638564	71
Lee, H.K., & Fernando, Y. (2015). The antecedents and outcomes of the medical tourism supply chain. <i>Tourism Management</i> , 46, 148-157. DOI: 10.1016/j.tourman.2014.06.014	68
Wang, H. (2012). Value as a medical tourism driver. <i>Managing Service Quality: An International Journal</i> , 22(5), 465-491. DOI: 10.1108/09604521211281387	68
Wu, H-C, Li, T., & Li, M-Y. (2016). A Study of Behavioral Intentions, Patient Satisfaction, Perceived Value, Patient Trust and Experiential Quality for Medical Tourists. <i>Journal of Quality Assurance in Hospitality & Tourism</i> , 17(2), 114-150. DOI: 10.1080/1528008X.2015.1042621	59
Sharma, P., & Nayak, J.K. (2018). Testing the role of tourists' emotional experiences in predicting destination image, satisfaction, and behavioral intentions: A case of wellness tourism. <i>Tourism Management Perspectives</i> , 28, 41-52. DOI: doi.org/10.1016/j.tmp.2018.07.004	44
Ranjan Debata, B., Sree, K., Patnaik, B., & Sankar Mahapatra, S. (2013). Evaluating medical tourism enablers with interpretive structural modeling. <i>Benchmarking: An International Journal</i> , 20(6), 716-743. DOI: 10.1108/BIJ-10-2011-0079	44
Seow, A.N., Choong, Y.O., Moorthy, K., & Chan, L.M. (2017). Intention to visit Malaysia for medical tourism using the antecedents of Theory of Planned Behaviour: A predictive model. <i>International Journal of Tourism Research</i> , 383-393. DOI: 10.1002/jtr.2120	37

Thematic mapping allows visualization of four different typologies of themes as shown in Figure 2. The thematic map exploits the Keywords Plus field. They review the titles of all references and highlight additional relevant but overlooked keywords that were not listed by the authors. Keywords terms can capture an article's content with greater depth and variety.

**FIGURE 2.** Thematic map

In Figure 2, a total of 6 clusters were identified. It can be observed that the basic and transversal themes are concentrated on the following 2 topics: medical tourism and destination image. In addition, issues related to loyalty

and service quality are considered. As motor themes are perceived benefits, perceived value and interpretive structural modelling; these themes are both well developed and important for the structure of the research field. Issues presented in the quadrant ‘Niche themes’ are considered to be well-developed internal ties but unimportant external ties and consequently, they have a peripheral role in the development of the scientific field. In the present research, 4 topics were found in this quadrant, namely, healthcare, structural equation modelling, customer engagement/satisfaction. The 3 themes, Malaysia, health tourism and theory of planned behaviour, are positioned in the emerging or declining quadrant, which allows saying that are both weakly developed and marginal. It is essential to remark that the motor themes and the basic themes are considered to be those that favour the development and consolidation of a scientific field of knowledge or a journal due to their density and centrality.

Focusing on the previous analysis it is possible to find a future line of research that could focus on an interdisciplinary combination of important aspects with the management of health services related to medical tourism, such as the organisation and performance of medical tourism, marketing, satisfaction with the services provided, and loyalty. Moreover, data modelling and prediction can be a trend of topics to be researched and developed as it will make the research much more solid.

CONCLUSIONS

This bibliometric analysis helps to point out that the absence of publications related to the phenomenon of ‘medical tourism’, presents a gap in the literature, which requires further research. The lack of publications may be related to the fact that this line of research is still new. The main results of the present analysis allow concluding, for the timespan 2012-August 2021, that the journals that presented more than 100 citations are the ‘Tourism management’ and ‘Journal of destination marketing and management’. A growing evolution of scientific production in recent years addresses the issue of medical tourism. A combination of important aspects of management of health services related to medical tourism, and data modelling and forecasting can be a trend of topics to be researched and developed. Additionally, according to the thematic map, the motor themes and the basic themes are considered to favour the development and consolidation of a scientific field of knowledge or a journal due to their density and centrality. In this paper, for the motor themes, they focus on perceived benefits, perceived value and interpretive structural modelling; and for basic themes, the focus is on topics such as medical tourism, destination image, loyalty and service quality. It should be noted that this research trend can be combined with active life strategies, quality and wellbeing, i.e. it can be called Green Health. A limitation of this study was the use of a single database (Scopus), which although it groups an immensity of publications, certainly did not exhaust the possibilities of research in the area.

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