



Restarting Medical Tourism in the COVID-19 Pandemic: A Strategic-based Approach

Hasan Mosazadeh^{1,*}, Farshad Faezi Razi², Masoud Lajevardi³, Hossein Mousazadeh⁴, Amir Ghorbani⁵, Farahnaz Akbarzadeh Almani⁶ and Faranak Shiran⁷

¹Department of Psychology, Kazimierz Wielki University, Bydgoszcz, Poland

²Department of Industrial Management, Semnan Branch, Islamic Azad University, Semnan, Iran

³Department of Business Management, Semnan Branch, Islamic Azad University, Semnan, Iran

⁴Department of Regional Science, Eötvös Loránd University, Budapest, Hungary

⁵Department of Management, University of Isfahan, Isfahan, Iran

⁶Department of Tourism Management, Budapest Business School, University of Applied Sciences, Budapest, Hungary

⁷Department of Tourism Management, Isfahan Sheikh Bahaei University, Isfahan, Iran

*Corresponding author: Department of Psychology, Kazimierz Wielki University, Bydgoszcz, Poland. Email: htmosazadeh@gmail.com

Received 2021 September 13; **Revised** 2021 December 11; **Accepted** 2022 January 04.

Abstract

The present study had a twofold objective, including the reconceptualization of medical tourists' perceived risk in the COVID-19 pandemic and developing strategies to reduce medical tourists' perceived risk during the pandemic. These two steps were referred to as a strategic-based approach. The first step defines medical tourists' perceived risk as the subjective/cognitive (mind-driven) expectations and objective/actual (real-image driven) evaluation of the negative consequences/losses before/after making travel decisions to an unsafe COVID-19 destination. Following that, the associated dimensions were identified, such as psychological, financial, health, legal, performance, facility, and time risks. Finally, two main strategies (country-based and hospital-/clinic-based) were developed to create a safe COVID-19 destination. This study could make significant theoretical and practical contributions to strategic medical tourism management.

Keywords: Safe COVID-19 Destination, Perceived Risk, Restarting Tourism, Hospital-/Clinic-based Strategy

1. Context

Medical tourism is generally defined an activity requiring individuals to travel to another country outside their place of residence (1). COVID-19 is the worst crisis ever faced by international medical tourism. The outbreak of COVID-19 has closed borders and harmed the medical tourism market. Asia-Pacific has reportedly lost 33 million tourists, suffering the most significant damage in this area (2). China has one million outbound medical tourists, plus one million health tourists, with the three top destination countries of South Korea, Japan, and the United States. South Korea hosts 350,000 medical tourists per year, with one in three coming from China. Beyond Southeast Asia, Iran also hosts 350,000 medical tourists, with 90% coming from local countries and the Gulf, which is a region with an increasing rate of COVID-19 infection. Italy has only small inbound medical tourism numbers and over 600,000 health tourism visitors (3).

Currently, hospitals tend to perform only emergency surgery procedures. It is believed that COVID-19 will disrupt the global medical tourism industry and may have permanent negative effects on the global economy. As any other industry, the medical tourism industry takes time to recover from the consequences of the current pandemic and must take small steps toward rejuvenation (4). Under such critical circumstances, supply and demand could create and strengthen new tourism paths (5), thereby leading to planning to restart the tourism industry after the COVID-19 pandemic (6), especially sustainable and post-modern tourism; this will allow unique and valuable opportunities to rethink and reset tourism (7).

A comprehensive review of the recent medical tourism literature shows a severe theoretical and practical lack of focus on medical tourists' perceived risk to restart the medical tourism industry in the current pandemic based on a strategic approach. Therefore, the novelty aspect of the present study provides an opportunity to tourism ex-

ecutives to restart medical tourism platforms and design new policies and methods aimed at fostering sustainable tourism goals.

2. Objectives

The initial objective of the study was the reconceptualization of medical tourists' perceived risk in the COVID-19 pandemic, and the second objective was to develop strategies to reduce medical tourists' perceived risk in the current pandemic.

3. Literature Review

3.1. The Concept of Perceived Risk in the Pre-COVID-19 Pandemic

The concept of perceived risk was commonly discussed in contexts such as marketing and tourism management before the COVID-19 crisis which presented in [Table 1](#) (8-18). Huang and Zhao (19) identified seven types of perceived risks, including quality, psychological, health, financial, environmental, loss of time, and social risks. In addition, Huifeng et al. (16) conducted online customer surveys in Chinese restaurants based on the theory of risk and communication to assess performance reliability and financial risks. Fazal-e-Hasan et al. (18) also investigated social and psychological risks and their impact on the intention to buy products. In another study, Olya and Al-ansi (20) identified Muslim tourists' perceived risks of eating halal food while traveling abroad, classifying the concepts as health, psychological, environmental, social, qualitative, financial, and time-wasting risks. The aforementioned studies indicated that organizations and companies must attempt to reduce people's perceived risks for positive consequences. [Tables 1](#) and [2](#) summarize the findings of previous studies regarding the concept of perceived risk.

Regarding medical tourism, a few studies have been focused on the concept of perceived risk in the pre-pandemic period (10, 23-28). [Tables 1](#) and [2](#) summarize the findings of the studies regarding perceived risk in medical tourism. These studies have mainly focused on four domains, including the use of the existing perceived risk definitions or developing a new definition, using the existing perceived risk dimensions or developing new dimensions, using the existing measures of perceived risk or developing new measures, and using the existing perceived risk measurement scales or developing new measurement scales. A

comprehensive literature review of perceived risk in medical tourism shows that all the studies in this regard were conducted in the pre-COVID-19 pandemic. Therefore, the theoretical and practical lack of research in the current pandemic becomes evident ([Table 2](#)).

3.2. The Strategic-based Approach of Medical Tourism in the COVID-19 Pandemic

According to Georga (30), similar to most sectors, the medical travel market includes providers of various sizes. In the current pandemic, small and market-sensitive sectors (eg, medical travel consultants, startups, and small agencies/facilitators) tend to have a limited budget and cash flow and are most sensitive to fluctuations in the medical travel flow due to a phenomenon known as the 'COV-panic'. These individuals are likely to cut back on marketing and customer services immediately, dismiss personnel (if they have any), and potentially even disappear from the market. It may also be difficult for these individuals to restart their business after the COVID-19 crisis. On the other hand, medium-sized medical travel providers (eg, average-sized clinics/agencies) have a better position; they might consider the COVpanic simply as another crisis, possibly downsize their staff, reduce their spending, and cancel their participation in events. In addition, they will be more committed to maintaining their business through the crisis. Finally, large and well-established businesses in medical travel (eg, large clinics, hospitals, hospital groups, and the largest agencies) have heavily invested in an international patient business, which generated high revenues before COVID-19. These sectors are most resilient to a business downturn due to pandemics and may continue to invest in this business, taking a pragmatic approach to foreign patient cancellations. They consider the current pandemic as another passing crisis ([Tables 3-5](#)).

3.3. Research Methodology

This qualitative research was conducted using content analysis to compare previously published studies regarding perceived risk and update this concept during the coronavirus pandemic by content analysis method. The core of strategic-based approaches was determined for this purpose as the most common approach to assessing the concept of 'perceived risk'. In the new strategic approach, researcher initially attempted to utilize this concept based on the COVID-19 pandemic to develop a new measurement scale. Following that, new strategies were formulated to

Table 1. Perceived Risk Definitions

Author(s)	Year	Concept	Definition	Field
Salehudin (21)	2011	Perceived risk	Consumer perception of the possibility of accidents that could be harmful to them because of purchasing a particular product.	Technological goods purchase
Maziriri and Chuchu (22)	2017	Perceived risk	Consumers' mental expectations of harm, meaning that any action of the consumer will have consequences that he can not predict with confidence, and some of them are unpleasant.	Goods purchase intention
Hwang and Choe (17)	2020	Perceived risk	The subjectively determined expectation of loss	Restaurant

Table 2. Perceived Risk Dimensions

Perceived Risk Dimensions	Definition	Author(s)
Performance risk	- Consumer perception of risks cannot meet their needs. - If unusable goods or services are produced or a mistake occurs in their advertisements that cause the buyer to not meet expectations, potential losses will increase.	Salehudin (21), Nam and Quan (14)
Financial risk	- Consumer perception of the risks of buying a product with financial losses. - The possibility of losing money due to improper purchase decision - Possible monetary cost related to the loss of the initial purchase price	Salehudin (21), Maziriri and Chuchu (22), Bhukya and Singh (29), Nam and Quan (14), Hwang and Choe (17)
Convenience risk	Consumer understanding of the risks of buying a product which takes plenty of effort and time	Salehudin (21)
Psychosocial risk	- If the consumer uses poor services or poor quality products will be disappointed. - It is possible that consumer losses when shopping can cause depression. - It is possible that choosing and buying a product will spoil the consumer's self-perception	Salehudin (21), Maziriri and Chuchu (22), Nam and Quan (14), Hwang and Choe (17)
Time risk	- Time lost due to product failure. - Lost time because consumers are looking for information, purchase, use, repair, or replacement	Maziriri and Chuchu (22), Nam and Quan (14), Hwang and Choe (17)
Functional risk	Consequences of poor product performance at the level expected by customers	Maziriri and Chuchu (22)
Physical risk	Consumer fear that some products can harm their health or cause physical injury	Maziriri and Chuchu (22), Bhukya and Singh (29)
Social risk	- Reflection of frustration in people by friends and family if the store is chosen incorrectly. - Points to the potential harms of being in a person's social group as a result of adopting a product or service, which seems silly or unconventional due to unusual consumer behavior.	Maziriri and Chuchu (22), Nam and Quan (14)
Security risk	Possible harms when the online trading system is not secure or is hacked or attacked by cybercriminals that cause data to be lost or exposed	Nam and Quan (14)
Privacy risk	Refers to potential losses of control over personal. information	Nam and Quan (14)
Health risk	The possibility that the performance of a product or service results in a health hazard to the consume	Hwang and Choe (17)
Environmental risk	Travelers' concerns about the environmental situations	Hwang and Choe (17)
Quality risk	Tourists' worries about the quality of medical products will be lower than their expectations	Hwang and Choe (17)

Table 3. Perceived Risk Definitions in the Tourism Context

Author(s)	Year	Concept	Definition
Khan et al. (27)	2019	Perceived risk	Perceived risk occurs when people sense a difference the incongruity and actual image
Sheng-Hsiung et al. (31)	1997	Perceived risk	It is likely to happen various unfortunate things for travelers on their destination
Cui et al. (32)	2016	Perceived risk	The perception of tourists' risk about negative effects may have occurred during their trip
Chen et al. (33)	2012	Perceived risk	Medical travelers have mental feelings about potential risks as well as intuitive judgments

Table 4. Perceived Risk Definitions in the Medical Tourism Context

Author(s)	Year	Concept	Definition
Habibi and Ariffin (25)	2018	Perceived risk	The degree of risks related to unavailability of postoperative care, negligence, medical side effects, and complications
Seow et al. (26)	2017	Perceived risk	Tourists' attitude in possible negative results that would occur from this transaction
Khan et al. (27)	2019	Perceived risk	Perceived risk is defined as the perception of medical tourism that may influence travel decisions
Sung and Ozuem (28)	2017	Perceived risk	Many issues, including ethical and legal issues, patient safety, and linguistic and cultural differences, need to be considered

Table 5. Perceived Risk Dimension in the Medical Tourism Context

Perceived Risk Dimensions	Definition	Author(s)
Psychological risk	The suffering is caused by mental stress.	Kim and Um (24)
Financial risk	The possibility of monetary loss	Kim and Um (24)
Health at destination risk	Although patients travel for treatment, they may become infected with other dangerous diseases when hospitalized, which may worsen the patient's condition	Khan et al. (27)
Long air travel risk	Prolonged air travel may harm patients who have already been infected by reducing the blood supply to infected parts of the body, which worsens the condition of patients when they return home.	Khan et al. (27)
Destination related risks	Each destination has its advantages and risks depending on its circumstances, which may differ from other countries. Some of these risks are crime, robbery, and sexual assaults risks	Khan et al. (27)
Medico-legal risks	Many countries traveling to medical destinations have developing economies. These countries do not have fixed and strict laws to deal with abuse	Khan et al. (27)
Pre-operative and recuperation risks	Sometimes, patients prefer not to consult their doctor in their own country and consult directly with doctors abroad, which can lead to the termination of the existing medical file that he had in his own country	Khan et al. (27)

improve medical tourists' perceived risk as a solution for safe planning and the recovery of the medical tourism industry during the COVID-19 pandemic.

4. Discussion

4.1. Reconceptualization of Medical Tourist' Perceived Risk in the COVID-19 Pandemic

According to the World Tourism Organization (34), every country should conduct a risk-benefit analysis and decide on its priorities. The WHO also believes that essential emergency travel and humanitarian assistance should be prioritized in this regard. Cargo transportation should also be a priority to provide essential medical resources. As for passengers, elderly patients and those with chronic or underlying diseases should be prioritized.

4.2. Safe COVID-19 Destination Strategies

In terms of offers, they should be properly targeted, logical, realistic, and fitting to the needs of today's clients. To stay informed, in addition to the IMTJ, updated research produced within the country or by others should be prioritized. There are many 'copy-and-paste reports' in the

market, which use historic figures and offer little to no analysis of the future. Accreditation could also improve the standards of hospitals and clinics. However, there is no evidence suggesting that accreditation alone would bring in international business. The average medical traveler is likely less concerned about whether their medical travel agent has or does not have a certificate and is more interested in whether they are economical and efficient (35). According to Gillson and Muramatsu (36), COVID-19 has shifted healthcare resources across borders due to the strain on the capacity of healthcare systems (36). Many countries are now investing in the development of medical tourism facilities by inviting prominent medical professionals.

The WTO has published guidelines for restarting tourism due to the COVID-19 crisis (37). Moreover, the World Travel and Tourism Council have introduced new global protocols to restart tourism, entitled "Safe Travels" (38). The restart of tourism must proceed with COVID-19 supervision and security (39). Based on the aforementioned studies and planning in this regard, we have identified two main strategies as tools for the conversion of an unsafe destination into a safe destination in the current

pandemic; these tools are country-based strategies and hospital-/clinic-based strategies.

Governments and medical tourism hubs play a key role in country-based strategies, which is referred to as the medical tourism index (MTI) by Fetscherin and Stephano (40). Accordingly, countries must keep infection rates low by implementing global health protocols, implement quarantine for up to 21 days, close their borders to countries with a high infection rate, increase the quality of medical services by reducing restrictions on the movement of healthcare professionals across borders and reducing barriers to telemedicine, increase tolerance for future crises throughout the world and strengthen the global health system, prepare short-term visa conditions (ie, M visa) to allow foreigners to enter the country and the visa to be issued faster, formulate new visa policies and demand a medical certificate from designated healthcare institutions, and provide guidelines for medical tourism before starting to welcome international visitors.

The MTI is a useful strategy based on the overall assessment of the standards and quality of service in different countries and has a direct impact on the selection and experience of medical tourists (40, 41). Therefore, the governments and countries that are targets of medical tourism must comply with the MTI during and after the COVID-19 pandemic. According to a review of the improvement processes against COVID-19 outbreak, medical tourism, as a part of the tourism management sector, is expected to recover from this unforeseen market shock fundamentally due to several forms of government interventions (5). Hospitals and clinics must be able to use pandemic-related strategies to assist in encouraging new patients. However, it is only possible if medical travelers feel safe traveling to the destination. We believe that this strategy should cover four key aspects, including hospitals' physicians and staff, equipment and technologies, physical environments, and accreditation to decrease patients' uncertainty and fostering a positive perception of safe destinations in medical travelers (Figure 1 and Table 6).

Based on medical tourists' perceived risk new conceptualization we propose below visual model:

5. Conclusions, Suggestions, and Future Research Directions

According to Wang (42), clients' perceived value is the driving force behind medical tourism and a key predic-

tor of customer intentions. During health crises such as a pandemic, an unsafe and uncertain destination creates a negative destination image in medical tourists' minds, thereby increasing the perceived risk of medical traveling. Therefore, the only way to create a positive destination image and reduce medical travelers' perceived risk is moving from an unsafe COVID-19 destination to a safe COVID-19 destination.

In the second step, we identified the dimensions of medical tourists' perceived risk based on the COVID-19 pandemic, which included psychological, financial, health, legal, performance, facility, and time risks. In the third step, two main strategies were developed as tools for the conversion of an unsafe destination into a safe destination in the COVID-19 pandemic; these approaches were a country-based strategy and a hospital-/clinic-based strategy.

Based on the proposed strategic-based approach, country-based and hospital-/clinic-based strategies could turn an unsafe COVID-19 destination into a safe COVID-19 destination. Finally, government agencies, medical tourism hubs, and hospitals/clinics should push the message of a safe COVID-19 destination to build trust and reduce the perceived risk of international medical tourists in the post-COVID-19 pandemic.

WOM is the most important acquisition channel in medical tourism marketing and recruitment (43). However, further studies are required to examine WOM guidelines and policies in medical tourism. As mentioned earlier, one of the members of the research panel works in the field of tourism and immigration in Europe, and field observations show that people have admitted that they would want to see and know about the offered medical services before they take a trip to a specific destination. Therefore, further investigations could be focused on online medical tourism to strengthen the trust and understanding of tourists. Moreover, hospitals and clinics must conduct regular health monitoring (manually or automatically) to overcome the current pandemic. Further studies could also be focused on identifying and developing management guidelines and policies to enable hospitals and clinics to maintain the health of tourists during health crises. Investigating the role of technology, robots, and artificial intelligence in restarting medical tourism during the COVID-19 pandemic is another research aspect worth exploring in this regard (Figure 2).

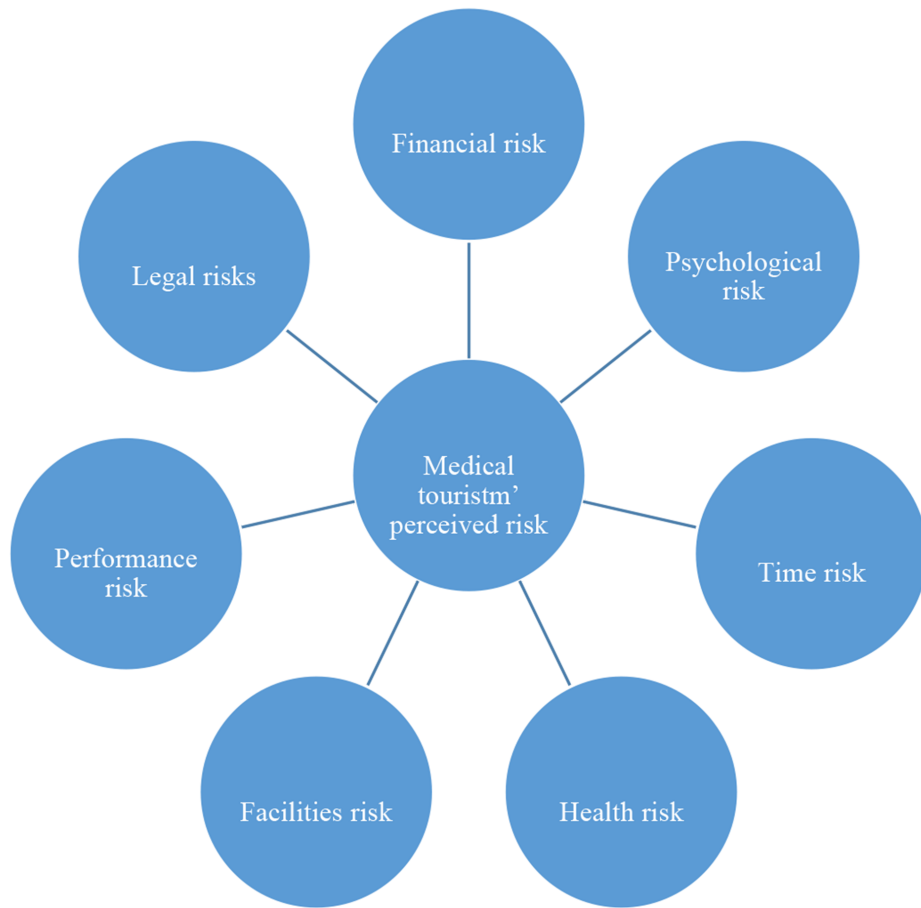


Figure 1. Visual model of medical tourists' perceived risk new conceptualization in pandemic time

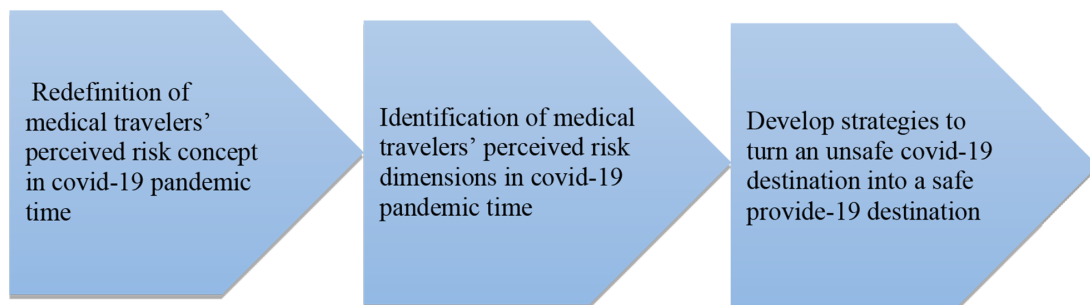


Figure 2. Strategic-based approach framework to medical tourism industry recovery in covid-19 pandemic crisis

Table 6. Definition of Perceived Risk Dimensions in the Time of the Pandemic

Concept	Definition	Dimensions	Definition
Medical tourists' perceived risk	Medical tourists' subjective/cognitive (mind-driven) expectations and objective/actual (real-image driven) evaluation of the negative consequences/losses before/after making travel decisions to an unsafe covid-19 destination.	Psychological risk	Medical tourists' expectations and evaluation of the suffering caused by mental stress and tension due to an unsafe covid-19 destination choice.
		Financial risk	Medical tourists' expectations and evaluation of waste the money due to an unsafe covid-19 destination choice.
		Health risk	Medical tourists' expectations and evaluation of corona-virus transmission probability through travel to an unsafe covid-19 destination.
		Legal risks	Medical tourists' expectations and evaluation of lack of the supportive laws in case of possible transmission with corona-virus due to travel to an unsafe covid-19 destination.
		Performance risk	Medical tourists' expectations and evaluation of low-quality medical tourism providers' services due to travel to an unsafe covid-19 destination.
		Facilities risk	Medical tourists' expectations and evaluation of possible negative outcomes related to facilities, equipment, and technologies during the trip due to an unsafe covid-19 destination.
		Time risk	Medical tourists' expectations and evaluation of time lost because of an unsafe covid-19 destination choice.

Footnotes

Authors' Contribution: Masoud Lajvardi performed the study and developed the main text. Amir Ghorbani, Hossein Mousazadeh, Hasan Mosazadeh, Farahnaz Akbarzadeh Almani, and Farshad Faezi Razi designed the study and assisted Masoud Lajvardi in the completing and developing of main text. All authors critically reviewed the manuscript and enriched the first draft. Faranak Shiran helped on similarity/iThenticate check and observing the ethical principles of research.

Conflict of Interests: The authors declare no conflict of interest.

Funding/Support: This research received no external funding.

References

- Wong BKM, Sa'aid Hazley SA. The future of health tourism in the industrial revolution 4.0 era. *J Tour Futures*. 2020;7(2):267-72. doi: [10.1108/jtf-01-2020-0006](https://doi.org/10.1108/jtf-01-2020-0006).
- Shukry A. Malaysia partially reopens borders to expats, medical tourists. Bloomberg; 2020. Available from: <https://www.bloomberg.com/middleeast>.
- Yusof A. Malaysia healthcare to hit RM2bil, fuelled by two million international tourists in 2020. New Straits Times; 2020. Available from: <https://www.nst.com.my/business/2019/11/534859/malaysia-healthcare-hit-rm2bil-fuelled-two-million-international-tourists>.
- Sharma A, Vishraj B, Ahlawat J, Mittal T, Mittal M. Impact of COVID-19 outbreak over medical tourism. *IOSR J Dent Med Sci*. 2020;19(5):56-8.
- Brouder P, Teoh S, Salazar NB, Mostafanezhad M, Pung JM, Lapointe D, et al. Reflections and discussions: tourism matters in the new normal post COVID-19. *Tour Geogr*. 2020;22(3):735-46. doi: [10.1080/14616688.2020.1770325](https://doi.org/10.1080/14616688.2020.1770325).
- Nepal SK. Adventure travel and tourism after COVID-19 – business as usual or opportunity to reset? *Tour Geogr*. 2020;22(3):646-50. doi: [10.1080/14616688.2020.1760926](https://doi.org/10.1080/14616688.2020.1760926).
- Higgins-Desbiolles F. Socialising tourism for social and ecological justice after COVID-19. *Tour Geogr*. 2020;22(3):610-23. doi: [10.1080/14616688.2020.1757748](https://doi.org/10.1080/14616688.2020.1757748).
- He S, Chen S, Kong L, Liu W. Analysis of Risk Perceptions and Related Factors Concerning COVID-19 Epidemic in Chongqing, China. *J Community Health*. 2021;46(2):278-85. doi: [10.1007/s10900-020-00870-4](https://doi.org/10.1007/s10900-020-00870-4). [PubMed: [32592160](https://pubmed.ncbi.nlm.nih.gov/32592160/)]. [PubMed Central: [PMC7318903](https://pubmed.ncbi.nlm.nih.gov/PMC7318903/)].
- Guru S, Nenavani J, Patel V, Bhatt N. Ranking of perceived risks in online shopping. *Decision*. 2020;47(2):137-52. doi: [10.1007/s40622-020-00241-x](https://doi.org/10.1007/s40622-020-00241-x).
- Dash A. Exploring visit intention to India for medical tourism using an extended theory of planned behaviour. *J Hosp Tour Insights*. 2020;4(4):418-36. doi: [10.1108/jhti-03-2020-0037](https://doi.org/10.1108/jhti-03-2020-0037).
- Trinh HN, Tran HH, Vuong DHQ. Determinants of consumers' intention to use credit card: a perspective of multifaceted perceived risk. *Asian J Econ Bank*. 2020;4(3):105-20. doi: [10.1108/ajeb-06-2020-0018](https://doi.org/10.1108/ajeb-06-2020-0018).
- Scridon MA, Achim SA, Pintea MO, Gavrilletea MD. Risk and perceived value: antecedents of customer satisfaction and loyalty in a sustainable business model. *Econ Res-Ekon Istraz*. 2019;32(1):909-24. doi: [10.1080/1331677x.2019.1584043](https://doi.org/10.1080/1331677x.2019.1584043).
- Marriott HR, Williams MD. Exploring consumers perceived risk and trust for mobile shopping: A theoretical framework and empirical study. *J Retail Consum Serv*. 2018;42:133-46. doi: [10.1016/j.jretconser.2018.01.017](https://doi.org/10.1016/j.jretconser.2018.01.017).
- Nam TH, Quan VDH. Multi-dimensional Analysis of Perceived Risk on Credit Card Adoption. *Beyond Traditional Probabilistic Methods in Economics*. Springer; 2019. p. 606-20. doi: [10.1007/978-3-030-04200-4_43](https://doi.org/10.1007/978-3-030-04200-4_43).
- Marceda Bach T, da Silva WV, Mendonça Souza A, Kudlawicz-Franco C, da Veiga CP. Online customer behavior: perceptions regarding the types of risks incurred through online purchases. *Palgrave Commun*. 2020;6(1):1-12. doi: [10.1057/s41599-020-0389-4](https://doi.org/10.1057/s41599-020-0389-4).
- Huifeng P, Ha H-Y, Lee J-W. Perceived risks and restaurant visit intentions in China: Do online customer reviews matter? *J Hosp Tour Manag*. 2020;43:179-89.
- Hwang J, Choe JY. How to enhance the image of edible insect restaurants: Focusing on perceived risk theory. *Int J Hosp Manag*. 2020;87. doi: [10.1016/j.ijhm.2020.102464](https://doi.org/10.1016/j.ijhm.2020.102464).
- Fazal-e-Hasan SM, Mortimer G, Grimmer M, Grimmer L. Explaining the impact of consumer religiosity, perceived risk and moral po-

- tency on purchase intentions. *J Retail Consum Serv.* 2020;**55**. doi: [10.1016/j.jretconser.2020.102115](https://doi.org/10.1016/j.jretconser.2020.102115).
19. Huang Y, Zhao N. Chinese mental health burden during the COVID-19 pandemic. *Asian J Psychiatr.* 2020;**51**:102052. doi: [10.1016/j.ajp.2020.102052](https://doi.org/10.1016/j.ajp.2020.102052). [PubMed: 32361387]. [PubMed Central: PMC7195325].
 20. Olya HG, Al-ansi A. Risk assessment of halal products and services: Implication for tourism industry. *Tour Manag.* 2018;**65**:279–91. doi: [10.1016/j.tourman.2017.10.015](https://doi.org/10.1016/j.tourman.2017.10.015).
 21. Salehudin I. Perceived Purchase Risk in the Technological Goods Purchase Context: An Instrument Development and Validation. *SSRN Electron J.* 2011. doi: [10.2139/ssrn.1965439](https://doi.org/10.2139/ssrn.1965439).
 22. Maziriri ET, Chuchu T. The conception of consumer perceived risk towards online purchases of apparel and an idiosyncratic scrutiny of perceived social risk: a review of literature. *Int Rev Manag Mark.* 2017;**7**(3):257–65.
 23. Liang IJ, Choi HC, Joppe M, Lee W. Examining medical tourists' intention to visit a tourist destination: Application of an extended MEDTOUR scale in a cosmetic tourism context. *Int J Tour Res.* 2019;**21**(6):772–84. doi: [10.1002/jtr.2303](https://doi.org/10.1002/jtr.2303).
 24. Kim S, Um K. The Effects of Ambivalence on Behavioral Intention in Medical Tourism. *Asia Pac J Tour Res.* 2015;**21**(9):1020–45. doi: [10.1080/10941665.2015.1093515](https://doi.org/10.1080/10941665.2015.1093515).
 25. Habibi A, Ariffin AAM. Value as a medical tourism driver interacted by experience quality. *Anatolia.* 2018;**30**(1):35–46. doi: [10.1080/13032917.2018.1496122](https://doi.org/10.1080/13032917.2018.1496122).
 26. Seow AN, Choong YO, Moorthy K, Chan LM. Intention to visit Malaysia for medical tourism using the antecedents of Theory of Planned Behaviour: A predictive model. *Int J Tour Res.* 2017;**19**(3):383–93. doi: [10.1002/jtr.2120](https://doi.org/10.1002/jtr.2120).
 27. Khan MJ, Chelliah S, Khan F, Amin S. Perceived risks, travel constraints and visit intention of young women travelers: the moderating role of travel motivation. *Tour Rev.* 2019;**74**(3):721–38. doi: [10.1108/tr-08-2018-0116](https://doi.org/10.1108/tr-08-2018-0116).
 28. Sung E, Ozuem W. Customer-perceived value of medical tourism. *Current Issues and Emerging Trends in Medical Tourism.* IGI Global; 2018. p. 58–78.
 29. Bhukya R, Singh S. The effect of perceived risk dimensions on purchase intention: An empirical evidence from Indian private labels market. *Am J Bus.* 2015;**30**(4):218–30. doi: [10.1108/ajb-10-2014-0055](https://doi.org/10.1108/ajb-10-2014-0055).
 30. Georga M. How will COVID-19 shape medical tourism development? International Medical Travel Journal; 2020. Available from: <https://www.laingbuissonnews.com/imtj/features/how-will-covid-19-shape-medical-tourism-development/>.
 31. Sheng-Hsiung T, Gwo-Hsiung T, Kuo-Ching W. Evaluating tourist risks from fuzzy perspectives. *Ann Tour Res.* 1997;**24**(4):796–812. doi: [10.1016/S0160-7383\(97\)00059-5](https://doi.org/10.1016/S0160-7383(97)00059-5).
 32. Cui F, Liu Y, Chang Y, Duan J, Li J. An overview of tourism risk perception. *Nat Hazards.* 2016;**82**(1):643–58. doi: [10.1007/s11069-016-2208-1](https://doi.org/10.1007/s11069-016-2208-1).
 33. Chen Y, Zhang H, Qiu L. A Review on Tourist Satisfaction of Tourism Destinations. *Liss* 2012. Berlin, Germany: Springer; 2013. p. 593–604. doi: [10.1007/978-3-642-32054-5_83](https://doi.org/10.1007/978-3-642-32054-5_83).
 34. World Tourism Organization. *International tourist numbers could fall 60-80% in 2020: UNWTO reports.* World Tourism Organization; 2020, [cited 7 May 2020]. Available from: <https://www.unwto.org/news/covid-19-international-tourist-numbers-could-fall-60-80-in-2020>.
 35. Youngman I. COVID-19: Medical tourism could be affected until 2021. International Medical Travel Journal; 2020. Available from: <https://www.imtj.com/articles/covid-19-medical-tourism-could-be-affected-until-2021>.
 36. Gillson I, Muramatsu K. *Health Services Trade and the COVID-19 Pandemic.* World Bank Group; 2020. doi: [10.1596/33716](https://doi.org/10.1596/33716).
 37. World Tourism Organization. *UNWTO launches global guidelines to restart tourism.* World Tourism Organization; 2021. Available from: <https://www.unwto.org/news/unwto-launches-global-guidelines-to-restart-tourism>.
 38. World Travel and Tourism Council. *WTTC unveils "Safe Travels" - new global protocols to restart the Travel & Tourism sector.* World Travel and Tourism Council; 2020. Available from: <https://wtcc.org/News-Article/WTTC-unveils-Safe-Travels-new-global-protocols-to-restart-the-Travel-Tourism-sector>.
 39. Hall C, Scott D, Gössling S. Pandemics, transformations and tourism: be careful what you wish for. *Tour Geogr.* 2020;**22**(3):577–98. doi: [10.1080/14616688.2020.1759131](https://doi.org/10.1080/14616688.2020.1759131).
 40. Fetscherin M, Stephano R. The medical tourism index: Scale development and validation. *Tour Manag.* 2016;**52**:539–56. doi: [10.1016/j.tourman.2015.08.010](https://doi.org/10.1016/j.tourman.2015.08.010).
 41. Lubowiecki-Vikuk A, Dryglas D. Medical tourism services and medical tourism destinations in Central and Eastern Europe - the opinion of Britons and Germans. *Economic Research-Ekonomska Istraživanja.* 2019;**32**(1):1256–74. doi: [10.1080/1331677x.2019.1627892](https://doi.org/10.1080/1331677x.2019.1627892).
 42. Wang H. Value as a medical tourism driver. *Manag Serv Qual.* 2018;**22**(5):465–91. doi: [10.1108/09604521211281387](https://doi.org/10.1108/09604521211281387).
 43. Taheri B, Chalmers D, Wilson J, Arshed N. Would you really recommend it? Antecedents of word-of-mouth in medical tourism. *Tour Manag.* 2021;**83**. doi: [10.1016/j.tourman.2020.104209](https://doi.org/10.1016/j.tourman.2020.104209).