
Almatourism

Journal of Tourism, Culture and Territorial Development

From Epidemics to Pandemic: Tips from the Past

Aliperti, G.*
University of Deusto (Spain)

Cruz, A.M.†
Kyoto University (Japan)

ABSTRACT

The World Tourism Organization proposed to examine studies on previous infectious disease outbreaks (epidemics), in particular the severe acute respiratory syndrome (SARS) epidemic of 2002–2004, to better managing the impact of the COVID-19 on the tourism industry. We followed this suggestion by analysing tourism-related literature concerning previous outbreaks. We consequently identified the differences and similarities between past epidemics and the COVID-19 pandemic, evaluated recovery strategies previously adopted by tourism destinations, and suggested a research agenda to facilitate the tourism destinations' recovery. To provide theoretically grounded research suggestions, which are urgently needed by the tourism industry, only contributions from high-quality peer-reviewed journals were considered in this literature review.

Keywords: COVID-19; tourism destinations; pandemic; epidemic; destination management

* E-mail address: giuseppe.aliperti@deusto.es

† E-mail address: cruznaranjo.anamaria.2u@kyoto-u.ac.jp

Introduction¹

The World Health Organization (WHO) (2020a) defined the COVID-19 as a coronavirus disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The COVID-19 outbreak had a global impact, and the WHO identified it as a pandemic on March 11th, 2020 (WHO, 2020b; UNWTO, 2020; Fernandes, 2020). The pandemic caused fatalities and economic losses (Fernandes, 2020), and strongly affected the tourism industry (Brouder, 2020; Chinazzi et al., 2020; Gössling et al., 2020; Fernandes, 2020; Lapointe, 2020; Tremblay-Huet, 2020). Tourism-related literature started to provide rapid assessments of the effects of the COVID-19 outbreak. In the early-stage of the crisis, there were several useful contributions concerning tourism dynamics generated by the pandemic (Brouder, 2020; Gössling, et al., 2020; Lapointe, 2020; Tremblay-Huet, 2020). Emerging suggestions indicate the necessity to consider the pandemic as a transformative opportunity to reimagine and reform the next economic order (Sigala, 2020; McKinsey, 2020). From this perspective, further contributions are needed to investigate recovery strategies (Gössling et al., 2020).

The United Nations World Tourism Organization (UNWTO) has proposed that previous infectious-disease outbreaks, particularly the severe acute respiratory syndrome (SARS) outbreak of 2002–2004, should be examined in order to estimate the potential economic loss and reaction that the tourism industry will experience as a result of the COVID-19 outbreak (UNWTO, 2020). In recent decades, several additional epidemic outbreaks, such as those generated by the Avian influenza A (H5N1), the Middle East respiratory syndrome (MERS), and the foot and mouth disease (FMD), negatively affected the tourism industry (Gössling et al., 2020). Each outbreak was characterised by specific features, duration, and geographical location. Reactions to the epidemics were changing depending on the specific characteristics of each disease. Therefore, a wide range of strategies was adopted by tourism destinations to manage the crises. Although each outbreak was different, The UNWTO suggested considering the similarities and differences between previous epidemics and the COVID-19 pandemic to analyse the actions that were taken during previous outbreaks, and adapt these actions to the new pandemic scenario (UNWTO, 2020). Existing knowledge based on epidemics-related literature can be relevant to manage the post-pandemic recovery only if analysed taking into consideration the new COVID-19 dynamics. It needs to be adapted to the new context.

Following the UNWTO's suggestion (UNWTO, 2020) and considering the necessity to support tourism destinations' recovery, our study aims at introducing relevant studies that were developed to investigate previous epidemics. Later, we focus on the main findings that were emerging from these contributions. Finally, taking into consideration the past-knowledge on epidemics, we provide suggestions for further research to support the post-pandemic tourism destinations recovery. The article concludes by describing the limitations of the study.

1. Method

A scoping review process was selected as the methodology for this study (Tan et al., 2017). This process comprises the adoption of an initial question followed by more in-depth analyses. Our paper focusses on the tourism-destination perspective and is based on the UNWTO's (2020a) research suggestion; therefore, the initial broad question was: 'How did tourism destinations manage the process of recovery from the 2002–2004 SARS outbreak?' Later, we developed additional questions aiming at facilitating a comparison between the 2002–2004 SARS epidemic and the COVID-19 pandemic. Through these questions, we focussed on the following themes:

- 'Main characteristics of the 2002–2004 SARS epidemic from a tourism-destination perspective',
- 'Risk communication during epidemics',
- 'Tourists' risk perception during epidemics',
- 'Characteristics of tourists who are less-influenced by outbreaks'.

The analysis of the literature was conducted by considering peer-reviewed articles published in Web of Knowledge. Only documents in English were included. The search covered the period from 1995 to 2019. Search criteria included the following combinations of keywords: 'tourism' AND 'SARS'; 'tourism' AND 'epidemic', 'tourism destination' AND 'SARS'; 'tourism' AND 'disease outbreak'; and 'tourism' AND 'infectious disease'. The initial search returned 235 studies. As we focussed on the tourism-related dynamic of the 2002–2004 SARS epidemic, we set as an inclusion criterion only those articles that focussed on this event and on the recovering process. Thus, after applying this inclusion criterion, the total number of articles was reduced to 22. Finally, after removing duplicates, the total number of articles was 15. From reading the articles, we noticed that some major works, cited in the initially considered papers and mainly referring to additional previous epidemics, appeared to be absent from our list; as a result, we expanded our structured search using the snowball method (Spruijt et al., 2014) to enrich the content of the analysis. Only articles published in high quality peer-reviewed journals were considered.

At the end of this process, 34 articles were included in the review. Table 1 summarises the literature search process and results; Table 2 describes the articles included in this review.

Table 1 Summary of the literature search results (1995-2019)

Initial search criteria results	ISI Web Of Knowledge	
	1 st Result	After Exclusion Criteria*
‘tourism’ AND ‘SARS’	62	14
‘tourism’ AND ‘epidemic’	108	4
‘tourism’ AND ‘disease outbreak’	9	1
‘tourism’ AND ‘infectious disease’	54	3
Total	233	22
Total articles after removal of duplicates *		15
Total articles after the snowball method **		34

* Inclusion Criteria in the initial ISI Web Of Knowledge review: “How tourism destinations managed the recovery process during the SARS 2002-2004?”

** The Snowball Method includes additional relevant publications with reference to destination management during epidemics.

Table 2 Articles included in this review

N.	Year	Title	Journal	Authors
1.	2004	Health risks of overseas travel: ignorance and complacency prevail about infectious diseases.	BMJ: British Medical Journal	Dahle, U. R., & Petersen, F. C.
2.	2004	The over-reaction to SARS and the collapse of Asian tourism.	Annals of tourism research	McKercher, B., & Chon, K.
3.	2004	Knowledge, attitudes and practices in travel-related infectious diseases: the European airport survey.	Journal of travel medicine	Van Herck, K., Castelli, F., Zuckerman, J., Nothdurft, H., Van Damme, P., Dahlgren, A. L., ... & Walker, E.
4.	2005	Severe acute respiratory syndrome, tourism and the media.	International Journal of Tourism Research	Mason, P., Grabowski, P., & Du, W.
5.	2005	SARS in Singapore: surveillance strategies in a globalising city.	Health Policy	Teo, P., Yeoh, B. S., & Ong, S. N. (
6.	2005	Short-term perturbations and tourism effects: The case of SARS in China.	Current Issues in Tourism	Zeng, B., Carter, R. W., & De Lacy, T.
7.	2006	Japanese tourism and the SARS epidemic of 2003.	Journal of Travel & Tourism Marketing	Cooper, M.
8.	2006	Effects of the SARS Crisis on the Economic Contribution of Tourism to Australia.	Tourism Review International	Dwyer, L., Forsyth, P., & Spurr, R.
9.	2006	SARS in China: Tourism impacts and market rejuvenation.	Tourism analysis	Gu, H., & Wall, G.
10.	2006	A Perspective on SARS and Education in Hospitality and Tourism.	Journal of teaching in travel & tourism	Law, R.
11.	2006	Responding to global infectious disease	Social science &	Smith, R. D.

		outbreaks: lessons from SARS on the role of risk perception, communication and management.	medicine	
12.	2007	Theme park visitors' responses to the SARS outbreak in Taiwan.	Advances in Hospitality and Leisure.	Chuo, H. Y.
13.	2007	Avian influenza risk perception, Europe and Asia.	Emerging Infectious Diseases	De Zwart, O., Veldhuijzen, I. K., Elam, G., Aro, A. R., Abraham, T., Bishop, G. D., ... & Brug, J.
14.	2007	International tourism and infectious disease: Managing the SARS crisis in Singapore.	Crisis management in tourism	Henderson, J. O. A. N.
15.	2008	Assessing impacts of SARS and Avian Flu on international tourism demand to Asia.	Tourism Management	Kuo, H. I., Chen, C. C., Tseng, W. C., Ju, L. F., & Huang, B. W.
16.	2008	Stealth risks and catastrophic risks: On risk perception and crisis recovery strategies.	Journal of Travel & Tourism Marketing	Moreira, P.
17.	2009	Willingness to take travel-related health risks—a study among Finnish tourists in Asia during the avian influenza outbreak.	International Journal of Behavioral Medicine.	Aro, A. R., Vartti, A. M., Schreck, M., Turtiainen, P., & Uutela, A.
18.	2009	Risk perceptions and behaviour: towards pandemic control of emerging infectious diseases.	International Society of Behavioral Medicine	Brug, J., Aro, A. R., & Richardus, J. H. (2009).
19.	2009	Perceived travel risks regarding terrorism and disease: The case of Thailand.	Tourism Management	Rittichainuwat, B. N., & Chakraborty, G.
20.	2009	A general equilibrium analysis of the economic impact of a tourism crisis: A case study of the SARS epidemic in Taiwan.	Journal of Policy Research in Tourism, Leisure and Events.	Yang, H. Y., & Chen, K. H.
21.	2009	The impact of crisis events and macroeconomic activity on Taiwan's international inbound tourism demand.	Tourism Management	Wang, Y. S.
22.	2010	Post-SARS tourist arrival recovery patterns: An analysis based on a catastrophe theory.	Tourism Management	Mao, C. K., Ding, C. G., & Lee, H. Y. (2010).
23.	2010	An econometric analysis of SARS and Avian Flu on international tourist arrivals to Asia.	Environmental Modelling & Software	McAleer, M., Huang, B. W., Kuo, H. I., Chen, C. C., & Chang, C. L. (2010).
24.	2010	Risk, uncertainty and the theory of planned behavior: A tourism example. Tourism management.	Tourism Management	Quintal, V. A., Lee, J. A., & Soutar, G. N.
25.	2011	Intervention analysis of SARS on Japanese tourism demand for Taiwan.	Quality & Quantity	Min, J. C., Lim, C., & Kung, H. H.
26.	2013	A comparison of the governance of tourism planning in the two Special Administrative Regions (SARs) of China—Hong Kong and Macao.	Tourism Management.	Wan, Y. K. P.
27.	2015	Sustainable tourist environment: Perception of international women travelers on safety and security in Kuala Lumpur.	Procedia-Social and Behavioral Sciences	Amir, A. F., Ismail, M. N. I., & See, T. P.
28.	2016	MERS-CoV outbreak following a single patient exposure in an emergency room in South Korea: an epidemiological outbreak study.	The Lancet	Cho, S. Y., Kang, J. M., Ha, Y. E., Park, G. E., Lee, J. Y., Ko, J. H., ... & Ryu, J. G.
29.	2016	An overview of tourism risk perception.	Natural Hazards	Cui, F., Liu, Y., Chang, Y., Duan, J., & Li, J.
30.	2016	Towards a research agenda for post-disaster and post-crisis recovery strategies for tourist destinations: A narrative review.	Current Issues in Tourism	Mair, J., Ritchie, B. W., & Walters, G.
31.	2017	Infectious disease risk and international tourism demand.	Health policy and planning	Rosselló, J., Santana-Gallego, M., & Awan, W.

32.	2017	Impact of unexpected events on inbound tourism demand modeling: evidence of Middle East Respiratory Syndrome outbreak in South Korea.	Asia Pacific Journal of Tourism Research	Shi, W., & Li, K. X.
33.	2018	The role of the hotel industry in the response to emerging epidemics: a case study of SARS in 2003 and H1N1 swine flu in 2009 in Hong Kong.	Globalization and health	Hung, K. K., Mark, C. K., Yeung, M. P., Chan, E. Y., & Graham, C. A.
34.	2018	Building back better in the Cook Islands: A focus on the tourism sector.	Procedia engineering	Mannakkara, S., Wilkinson, S., Willie, M., & Heather, R.

The 34 articles underwent a thematic analysis. Applying the inclusion criterion and the following detailed questions, the data were coded, reviewed, and refined by all authors. After summarising each article included in the review, we performed initial coding and interpretation, followed by continuous rechecking, modification, and re-interpretation (Flick, 2009, pp. 305–332; Tan et al., 2017). An open-coding scheme was applied to the articles to explore and categorise the data; a structured, comparable process was applied that facilitated the identification of emerging themes (Flick, 2009, pp. 305–332; Mair et al., 2014; Tan et al., 2017). Data exploration and the preliminary synthesis was performed using Microsoft Excel. The following data were extracted: title; year; author; journal; and main findings concerning tourism-destination management during epidemics. At the end of the coding process, the thematic analysis revealed findings concerning the destination-management perspectives applied during previous epidemics, risk-communication during epidemics, tourists’ risk-perception during epidemics, and the characteristics of the travellers who will potentially be the first to arrive in the post-COVID-19 period.

2. Results from the literature

2.1 Previous epidemics: The destination-management perspective

Several infectious diseases, with different characteristics, strongly affected the tourism industry in recent decades. The SARS epidemic of 2002–2004 has been defined as a short-term sporadic crisis that had a significant impact on the tourism industry, especially in China (Zeng et al., 2005). This disease outbreak infected over 8,000 people and caused over 700 deaths (WHO, 2004). Originating in China, the disease spread around the world, reaching over 20 countries (Mao, Ding, and Lee, 2010). As well as the SARS, the H5N1 was involving several countries causing at least 134 deaths worldwide in 2004 (Rittichainuwat & Chakraborty, 2009). The Middle East Respiratory Syndrome (MERS) was mainly confined to the Arabian Peninsula and the largest outbreak outside of the initial area was registered in South Korea in 2015 (Cho et al., 2016), causing 38 fatalities (WHO, 2015). The Foot-and-Mouth Disease (FMD) outbreak of 2001 mainly affected the United Kingdom and its tourism industry (Ritchie et al., 2004). The Avian Influenza A was characterized for its long-term length as its threat remained for several years, differing from the relatively short period of SARS (Aro et al., 2009). All these

epidemics were different but always generated monetary losses and strongly affected tourism destinations (Kuo et al., 2008). Similar negative effects are occurring due to the COVID-19 pandemic, passing from a regional (epidemic) to a global (pandemic) scale (UNWTO, 2020).

For tourism destinations, the mitigation of the effect of each epidemic and the subsequent recovery process was always influenced by the efficiency of the crisis/disaster management plans that were employed. This is in line with most important tourism crisis and disaster management frameworks (Faulkner, 2001; Ritchie, 2008). Experience from previous epidemics suggests a list of useful crisis/disaster mitigation strategies. The seasonal adjustment of tourism flow is relevant should a crisis occur during the traditional peak months (Goh & Law, 2002; Zeng et al., 2005). Effective tourism destination's crisis management plans include the allocation of special funds to sustain small and medium-sized companies, and support the development of partnerships between enterprises, which can reduce their vulnerability (Zeng et al., 2005). This is necessary because small and medium-sized tourism businesses are more vulnerable than bi-sized international companies, which can employ product-diversification strategies (Ansoff, 1957), have greater resources, and may manage additional tourism facilities in unaffected areas (Zeng et al., 2005). Destination managers must also develop a balanced economic structure that is not solely reliant on the tourism industry (Zeng et al., 2005), as once a destination is perceived as unfavourable by travellers, the tourism recovery process becomes slow and difficult (Cassedy, 1991; Mair et al., 2016).

Before traveling, tourists evaluate social security and risks of the destination (Cui et al., 2016). During previous epidemics, the increased risk perception led to the decision to avoid destinations labelled as dangerous areas (Cooper, 2006). The resumption of tourism flows in the post-epidemic is usually gradual, as domestic, outbound, and international arrivals generally resume in this order (Zeng et al., 2005). The 2002–2004 SARS epidemic showed that hotels and restaurants tend to initiate this process (Zeng et al., 2005). Tourism destinations initially disseminated safety information to reduce tourists' perceived risk (Rittichainuwat & Chakraborty, 2009) and, later on, promoted aggressive marketing (Zeng et al., 2005). Once the risk of contagion disappeared, destination managers tended to present a 'business as usual' image of their destination (Zeng et al., 2005, p. 318). Additionally, tourism destinations adopted a 'Building Back Better' approach by developing more sustainable tourism services (Mannakkara et al., 2018). They increased investment to promote their new and improved tourism attractions and, at the same time, informed tourists about the safety measures that were adopted (Cooper, 2006). Welcoming first-travellers with improved tourism facilities contributed to generate a positive word-of-mouth among tourists (Rittichainuwat & Chakraborty, 2009).

2.2 Risk communication during epidemics: The role of media and health-organizations

The literature indicates that communications and reports issued by the WHO, health professionals, and media always influenced tourists' risk perceptions (Cooper, 2006).

These risk communications can determine the success of tourism destinations' marketing initiatives and recovery strategies (Rittichainuwat & Chakraborty, 2009). During the 2002–2004 SARS epidemic, the WHO issued weekly reports detailing the cumulative number of reported probable cases but did not highlight the limited geographic spread of the virus and the rapid decrease in the number of active cases (Cooper, 2006). The WHO's strategy was designed to increase risk awareness and reduce the contagion risk (WHO, 2003). These messages generated safety concerns and influenced tourism trends, especially in the Asia-Pacific Region (Cooper, 2006). Similarly, in the case of H5N1 health professionals' recommendations contributed to a worldwide growth in risk perception (Rittichainuwat & Chakraborty, 2009). The increased risk perception consequently affected the tourism industries of several destinations in Asia (Rittichainuwat & Chakraborty, 2009). As a result of the ripple effect, even countries which were not affected by the epidemic were perceived as dangerous tourism destination due to their proximity to the epidemic epicentre (Rittichainuwat & Chakraborty, 2009). Media contributed to increase the ripple effect. For instance, the SARS outbreak was limited and controlled in Thailand, however, the destination was still described by the media as a 'risky zone' (Rittichainuwat & Chakraborty, 2009). As a result, despite aggressive marketing campaigns and discounts, the recovery process was prolonged (Rittichainuwat & Chakraborty, 2009). A similar effect was observed during the first Avian influenza outbreak in 2004 (Rittichainuwat & Chakraborty, 2009).

To avoid this risk, an effective crisis-management plan will maintain community and market confidence, reduce fears, and minimise fake news (Zeng et al., 2005). In the presence of contrasting and difficult-to understand risk information, the media tend to amplify the risk, leading to unnecessary mass scares that can generate excessive economic losses (Brug et al., 2009). During the Avian influenza outbreaks in 2005 and 2006, tourists were informed of certain rules and practices that would greatly reduce their risk of infection. These suggestions were based on scientific research and were perceived as trustworthy by tourists. This strategy reduced the negative effect of the outbreak on the tourism industry and facilitated the recovery (Rittichainuwat & Chakraborty, 2009). To reduce the impact of unofficial information sources, which may tarnish destinations' safety-related images, governments need to provide open and accessible information (Rittichainuwat & Chakraborty, 2009). Tourists tend to minimise their risk perception if they are aware of behaviours (e.g., avoiding specific areas of the destination and avoiding specific foods) that can minimise the risk of contagion (Rittichainuwat & Chakraborty, 2009; Smith, 2006). Risk communication must be considered at macro- and micro-levels (Mao et al., 2010). Macro-level strategies include the provision of communication through mass media, which can improve destinations' safety-related image among communities (Mao et al., 2010). Meanwhile, micro-level strategies comprise targeting of individual travellers, segmenting the market, and using individual communication to reduce tourists' perceived risk (Mao et al., 2010). To develop these tailored risk communication, it is necessary to understand

how risk perception changes among different tourists and typologies of travellers (Aro et al., 2009).

2.3 First-travellers

Travellers' risk perception varies depending on their origin country and culture (Aliperti & Cruz, 2019; De Zwart et al., 2007; Quintal et al., 2010). In Taiwan, after the SARS outbreak, the number of tourists from Hong Kong and the US quickly rebounded; however, it took much longer to convince Japanese tourists to return (Mao et al., 2010). This trend was linked to the fact that, although the Asia-Pacific Area was heavily impacted by the SARS outbreak, Japan was not strongly affected. As consequence and due to cultural characteristics, Japanese travellers tended to take extra precautions regarding travel abroad, which slowed the recovery process of Taiwanese tourism industry in this regard (Mao et al., 2010).

First-travellers during previous epidemics were young people. A study on millennials Finnish tourists travelling to Asia during the H5N1 epidemic of 2004 revealed that health-related risks poorly influenced their intention to travel. This finding conforms to other studies on European and American travellers showing that young people are more prone to take health-related risks as travel risks represent an added value to their novelty-seeking behaviour (Dahle & Petersen, 2004; Thomas, 2005; Lepp & Gibson, 2003; Elsrud, 2001).

Business travellers and frequent travellers are usually less vulnerable to perceived risk and uncertainty (Siomkos, 2000). This behaviour was confirmed during the MERS outbreak of 2015 in South Korea (Shi & Li, 2017). People on business trips tend to agree to travel after taking additional risks, such as losing their jobs, into consideration (Aro et al., 2009). At the same time, they are prone to take less travel-related health risks during the trip (e.g., avoiding certain types of food, avoiding handshaking) when compared to people who are on holiday, who tend to have more interaction with local populations (Aro et al., 2009).

Domestic tourism is the first to recover. Usually, countries that are not directly affected by epidemics increase their domestic tourism, benefitting from the fact that tourists prefer to explore safer destinations rather than completely avoid travelling (Cooper, 2006). In addition, a study on European travellers showed that people who travel during infectious disease outbreaks to visit relatives and friends tend to have low perceived risk, as they are wrongly influenced by a sense of reassurance generated by the proximity to the loved ones (Van Herck et al., 2004). Finally, in the immediate aftermath of a crisis involving an outbreak of infectious disease, there is usually an increased demand for nature-based holidays (Zeng et al., 2005).

3. Suggestions for further research

Our results highlight tourism trends during previous epidemics. To be meaningful, this past knowledge needs to be adapted to the new pandemic scenario as follows:

From disaster preparedness to the recovery of the tourism industry. Disaster-mitigation activities, which were successful during previous epidemics, need to be tested in the pandemic scenario. Macro-economic perspectives are required to support tourism destinations to adjusting seasonal tourism flows and developing more balanced local economic structures. Scholars should also seek to support the tourism industry by identifying effective resource management strategies, primarily focusing on small and medium-sized companies. From the recovery perspective, monitoring the role of tourism suppliers during the recovery stage and the characteristics of first-travellers (domestic, outbound, and international) will help to identify similarities among affected countries. Future studies should evaluate the efficacy of post-COVID-19 recovery plans. A focus on marketing strategies is needed. Future studies need to assess whether aggressive marketing is useful or not as, according to the epidemics-related literature, pre-COVID-19 tourism flows may easily return to the normal status after the crisis. Cross-countries analyses and benchmarking activities are required.

Risk communication management. Future studies should consider whether the ripple-effect concept is still relevant in a pandemic scenario, and how it evolves during this type of outbreak. The communication about COVID-19 is characterised by frequent online interactions, high use of social media, and high exposure to fake news. This new scenario requires additional studies on the effect of unofficial risk information on the recovery process. Concurrently, cross-country investigations on risk communication may reveal the best practices to be followed in future pandemics. A multi-stakeholder perspective (including government, health-related organizations, academics, and practitioners) is needed to identify the most effective tourism-oriented risk-communication strategies to be used during a pandemic; this would reduce uncertainty and the prevalence of contrasting information, while providing simple and clear information to tourists and tourism suppliers.

Tourists' risk perception. Future studies should consider risk perception, taking into consideration the unknown and unexplored dynamics generated by the COVID-19 outbreak. Destination managers should consider the efficacy of their safety measures and how they are communicated to the market. Further, any additional improvements to the tourism destination should be shared (e.g. new facilities, new eco-friendly business models, and improved accessibility) as the 'Building Back Better' approach can be fundamental in the post-pandemic. This aspect can be relevant because it affords comparison and identification of the gaps between the key features that tourists are expecting in the post-outbreak period and the improvements implemented by

destination managers and tourism suppliers. Studies on tourist behaviours should investigate tourists' planned behaviours and, later, focus on their effective behaviours.

First-travellers. Country-tailored studies that consider the composition of inbound tourism trends are needed. Each destination should investigate tourist behaviours, taking into consideration the origin-country of their main tourism flows and the main tourists' behavioural characteristics. Previous studies on epidemics can help to identify the identikit of the potential first-travellers in the post-crisis period (domestic, young-travellers, business-travellers, etc.) and the most effective marketing strategies to attract them. However, as a result of the global involvement and the long-term exposure to the risk of contagion caused by the pandemic, several future investigations should be developed, taking the new circumstances into consideration.

Conclusions

Focussing on tourism-related literature concerning the impact of past outbreaks, we identified the main post-epidemics tourism trends and the most effective destination management initiatives. Each epidemic had unique features, such as length and geolocalisation. The COVID-19 pandemic requires destination managers to consider previous knowledge and adapt it to the new setting. Further investigations on tourism destinations should particularly focus on disaster mitigation, disaster recovery, risk communication, tourists' risk perception, and tourists' behavioural characteristics/expectations, aiming at evaluating the use of epidemic-related knowledge to manage the uncertain and unknown COVID-19 dynamics. Future studies must consider the feasibility of comprehensive research on COVID-19 that focusses on the six composite disaster risk-management phases (pre-event; prodromal; emergency; intermediate; long-term recovery; resolution) identified by Faulkner (2001).

Limitations of the study. This study involved a systematic literature review that was enriched by the inclusion of additional articles on past-epidemics that were selected through a snowball sampling method, up to 2019. This approach potentially omitted interesting works published in prestigious editorials. To reduce the effect of this limitation, only articles published in high-quality peer-reviewed journals were considered. The research suggestions provided in this paper are tailored to support tourism-destination managers. Further investigations may consider adopting a multi-perspective approach to develop a more comprehensive research agenda.

References

Aliperti, G., & Cruz, A. M. (2019). Investigating tourists' risk information processing. *Annals of Tourism Research*, 79, 102803. <https://doi.org/10.1016/j.annals.2019.102803>

Amir, A. F., Ismail, M. N. I., & See, T. P. (2015). Sustainable tourist environment: Perception of international women travelers on safety and security in Kuala Lumpur. *Procedia Social and Behavioral Sciences*, 168, 123–133. <https://doi.org/10.1016/j.sbspro.2014.10.218>

Ansoff, H. I. (1957). Strategies for diversification. *Harvard Business Review*, 35(5), 113–124.

Aro, A. R., Vartti, A. M., Schreck, M., Turtiainen, P., & Uutela, A. (2009). Willingness to take travel-related health risks—A study among Finnish tourists in Asia during the avian influenza outbreak. *International Journal of Behavioral Medicine*, 16(1), 68. <https://doi.org/10.1007/s12529-008-9003-7>

Brouder (2020). *Reset redux: Possible evolutionary pathways towards the transformation of tourism in a COVID-19 world*, *Tourism Geographies*. <https://doi.org/10.1080/14616688.2020.1760928>

Brug, J., Aro, A. R., & Richardus, J. H. (2009). Risk perceptions and behaviour: Towards pandemic control of emerging infectious diseases. *International Society of Behavioral Medicine*, 3, 3–6. <https://doi.org/10.1007/s12529-008-9000-x>

Cassedy, K. (1991). *Crisis management planning in the travel and tourism industry: A study of three destinations and a crisis management planning manual*. PATA.

Chinazzi, M., Davis, J. T., Ajelli, M., Gioannini, C., Litvinova, M., Merler, S., Pastore y Pinotti, A., Mu, K., Rossi, L., Sun, K., Viboud, C., Xiong, X., Yu, H., Halloran M. E., Longini I. M., & Vespignani, A. (2020). The effect of travel restrictions on the spread of the 2019 novel coronavirus (COVID-19) outbreak. *Science*, 368(6489), 395–400. <https://doi.org/10.1126/science.aba9757>

Cho, S. Y., Kang, J. M., Ha, Y. E., Park, G. E., Lee, J. Y., Ko, J. H., Lee, J. Y., Kim, J.-H., Kang, C.-I., Jo, I.-J., Ryu, J. G., Choi, J. R., Kim, S., Huh, H. J., Ki C.-S., Kang, E.- S., Peck, K.-R., Dhong, H.-J., Song, J.-H., ... Kim, Y.-J. (2016). MERS-CoV outbreak following a single patient exposure in an emergency room in South Korea: An epidemiological outbreak study. *The Lancet*, 388(10048), 994–1001. [https://doi.org/10.1016/S0140-6736\(16\)30623-7](https://doi.org/10.1016/S0140-6736(16)30623-7)

Chuo, H. Y. (2007). Theme park visitors' responses to the SARS outbreak in Taiwan. *Advances in Hospitality and Leisure*, 3, 87. [https://doi.org/10.1016/S1745-3542\(06\)03006-2](https://doi.org/10.1016/S1745-3542(06)03006-2)

Cooper, M. (2006). Japanese tourism and the SARS epidemic of 2003. *Journal of Travel & Tourism Marketing*, 19(2-3), 117–131. https://doi.org/10.1300/J073v19n02_10

Cui, F., Liu, Y., Chang, Y., Duan, J., & Li, J. (2016). An overview of tourism risk perception. *Natural Hazards*, 82(1), 643–658. <https://doi.org/10.1007/s11069-016-2208-1>

Dahle, U. R., & Petersen, F. C. (2004). Health risks of overseas travel: Ignorance and complacency prevail about infectious diseases. *The BMJ*, 328(7437), 464. <https://doi.org/10.1136/bmj.328.7437.464-c>

De Zwart, O., Veldhuijzen, I. K., Elam, G., Aro, A. R., Abraham, T., Bishop, G. D., Richardus, J. H., & Brug, J. (2007). Avian influenza risk perception, Europe and Asia. *Emerging Infectious Diseases*, 13(2), 290–293. <https://doi.org/10.3201/eid1302.060303>

Dwyer, L., Forsyth, P., & Spurr, R. (2006). Effects of the SARS crisis on the economic contribution of tourism to Australia. *Tourism Review International*, 10(1-2), 47–55. <https://doi.org/10.3727/154427206779307231>

Elsrud, T. (2001). Risk creation in traveling: Backpacker adventure narration. *Annals of Tourism Research*, 28, 597–617. [https://doi.org/10.1016/S0160-7383\(00\)00061-X](https://doi.org/10.1016/S0160-7383(00)00061-X)

Faulkner, B. (2001). Towards a framework for tourism disaster management. *Tourism Management*, 22(2), 135–147. [https://doi.org/10.1016/S0261-5177\(00\)00048-0](https://doi.org/10.1016/S0261-5177(00)00048-0)

Fernandes, N. (2020). Economic effects of coronavirus outbreak (COVID-19) on the world economy. *SSRN*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3557504
<https://doi.org/10.2139/ssrn.3557504>

Flick, U. (2009). *An introduction to qualitative research*. Sage Publications Limited.

Goh, C., & Law, R. (2002). Modeling and forecasting tourism demand for arrivals with stochastic nonstationary seasonality and intervention. *Tourism Management*, 23(5), 499–510. [https://doi.org/10.1016/S0261-5177\(02\)00009-2](https://doi.org/10.1016/S0261-5177(02)00009-2)

Gössling, S., Scott, D., & Hall, C. M. (2020). Pandemics, tourism and global change: A rapid assessment of COVID-19. *Journal of Sustainable Tourism*, 1–20. <https://doi.org/10.1080/09669582.2020.1758708>

Gu, H., & Wall, G. (2006). SARS in China: Tourism impacts and market rejuvenation. *Tourism Analysis*, 11(6), 367–379. <https://doi.org/10.3727/108354206781040731>

Henderson, J. (2007). International tourism and infectious disease: Managing the SARS crisis in Singapore. *Crisis Management in Tourism*, 186–199. <https://doi.org/10.1079/9781845930479.0186>

Hung, K. K., Mark, C. K., Yeung, M. P., Chan, E. Y., & Graham, C. A. (2018). The role of the hotel industry in the response to emerging epidemics: A case study of SARS in 2003 and H1N1 swine flu in 2009 in Hong Kong. *Globalization and Health*, 14(1), 117. <https://doi.org/10.1186/s12992-018-0438-6>

Kuo, H. I., Chen, C. C., Tseng, W. C., Ju, L. F., & Huang, B. W. (2008). Assessing impacts of SARS and Avian Flu on international tourism demand to Asia. *Tourism Management*, 29(5), 917–928. <https://doi.org/10.1016/j.tourman.2007.10.006>

Lapointe, D. (2020). Reconnecting tourism after COVID-19: The paradox of alterity in tourism areas. *Tourism Geographies*. <https://doi.org/10.1080/14616688.2020.1762115>

Law, R. (2006). A perspective on SARS and education in hospitality and tourism. *Journal of Teaching in Travel & Tourism*, 5(4), 53–59. https://doi.org/10.1300/J172v05n04_04

Lepp, A., & Gibson, H. (2003). Tourist roles, perceived risk and international tourism. *Annals of Tourism Research*, 30(3), 606–624. [https://doi.org/10.1016/S0160-7383\(03\)00024-0](https://doi.org/10.1016/S0160-7383(03)00024-0)

McKercher, B., & Chon, K. (2004). The over-reaction to SARS and the collapse of Asian tourism. *Annals of Tourism Research*, 31(3), 716. <https://doi.org/10.1016/j.annals.2003.11.002>

McKinsey & Company. (2020). *Beyond coronavirus: The path to the next normal*. https://www.mckinsey.com/_/media/McKinsey/Industries/Healthcare%20Systems%20and%20Services/Our%20Insights/Beyond%20coronavirus%20The%20path%20to%20the%20next%20normal/Beyondcoronavirus-The-path-to-the-next-normal.ashx

Mair, J., Ritchie, B. W., & Walters, G. (2016). Towards a research agenda for post-disaster and post-crisis recovery strategies for tourist destinations: A narrative review. *Current Issues in Tourism*, 19(1), 1–26. <https://doi.org/10.1080/13683500.2014.932758>

Mao, C. K., Ding, C. G., & Lee, H. Y. (2010). Post-SARS tourist arrival recovery patterns: An analysis based on a catastrophe theory. *Tourism Management*, 31(6), 855–861. <https://doi.org/10.1016/j.tourman.2009.09.003>

Mannakkara, S., Wilkinson, S., Willie, M., & Heather, R. (2018). Building back better in the Cook Islands: A focus on the tourism sector. *Procedia Engineering*, 212, 824–831. <https://doi.org/10.1016/j.proeng.2018.01.106>

Mason, P., Grabowski, P., & Du, W. (2005). Severe acute respiratory syndrome, tourism and the media. *International Journal of Tourism Research*, 7(1), 11–21. <https://doi.org/10.1002/jtr.519>

McAleer, M., Huang, B. W., Kuo, H. I., Chen, C. C., & Chang, C. L. (2010). An econometric analysis of SARS and Avian Flu on international tourist arrivals to Asia. *Environmental Modelling & Software*, 25(1), 100–106.

<https://doi.org/10.1016/j.envsoft.2009.07.015>

Min, J. C., Lim, C., & Kung, H. H. (2011). Intervention analysis of SARS on Japanese tourism demand for Taiwan. *Quality & Quantity*, 45(1), 91–102.

<https://doi.org/10.1007/s11135-010-9338-4>

Moreira, P. (2008). Stealth risks and catastrophic risks: On risk perception and crisis recovery strategies. *Journal of Travel & Tourism Marketing*, 23(2-4), 15–27.

https://doi.org/10.1300/J073v23n02_02

Quintal, V. A., Lee, J. A., & Soutar, G. N. (2010). Risk, uncertainty and the theory of planned behavior: A tourism example. *Tourism Management*, 31(6), 797–805.

<https://doi.org/10.1016/j.tourman.2009.08.006>

Ritchie, B. (2008). Tourism disaster planning and management: From response and recovery to reduction and readiness. *Current Issues in Tourism*, 11(4), 315–348.

<https://doi.org/10.1080/13683500802140372>

Ritchie, B. W., Dorrell, H., Miller, D., & Miller, G. A. (2004). Crisis communication and recovery for the tourism industry: Lessons from the 2001 foot and mouth disease outbreak in the United Kingdom. *Journal of Travel & Tourism Marketing*, 15(2-3), 199–216.

https://doi.org/10.1300/J073v15n02_11

Rittichainuwat, B. N., & Chakraborty, G. (2009). Perceived travel risks regarding terrorism and disease: The case of Thailand. *Tourism Management*, 30(3), 410–418.

<https://doi.org/10.1016/j.tourman.2008.08.001>

Rosselló, J., Santana-Gallego, M., & Awan, W. (2017). Infectious disease risk and international tourism demand. *Health Policy and Planning*, 32(4), 538–548.

<https://doi.org/10.1093/heapol/czw177>

Shi, W., & Li, K. X. (2017). Impact of unexpected events on inbound tourism demand modeling: Evidence of Middle East respiratory syndrome outbreak in South Korea. *Asia Pacific Journal of Tourism Research*, 22(3), 344–356.

<https://doi.org/10.1080/10941665.2016.1250795>

Sigala, M. (2020). Tourism and COVID-19: impacts and implications for advancing and resetting industry and research. *Journal of Business Research*, 117, 312–321.

Siomkos, G. J. (2000). Managing airline disasters: The role of consumer safety perceptions and sense-making. *Journal of Air Transport Management*, 6(2), 101–108.

[https://doi.org/10.1016/S0969-6997\(99\)00030-7](https://doi.org/10.1016/S0969-6997(99)00030-7)

Smith, R. D. (2006). Responding to global infectious disease outbreaks: Lessons from SARS on the role of risk perception, communication and management. *Social Science & Medicine*, 63(12), 3113–3123. <https://doi.org/10.1016/j.socscimed.2006.08.004>

Spruijt, P., Knol, A. B., Vasileiadou, E., Devilee, J., Lebet, E., & Petersen, A. C. (2014). Roles of scientists as policy advisers on complex issues: A literature review. *Environmental Science & Policy*, 40, 16–25. <https://doi.org/10.1016/j.envsci.2014.03.002>

Tan, M. L., Prasanna, R., Stock, K., Hudson-Doyle, E., Leonard, G., & Johnston, D. (2017). Mobile applications in crisis informatics literature: A systematic review. *International Journal of Disaster Risk Reduction*, 24, 297–311. <https://doi.org/10.1016/j.ijdr.2017.06.009>

Teo, P., Yeoh, B. S., & Ong, S. N. (2005). SARS in Singapore: Surveillance strategies in a globalising city. *Health Policy*, 72(3), 279–291. <https://doi.org/10.1016/j.healthpol.2004.11.004>

Thomas, M. (2005). ‘What happens in Tenerife stays in Tenerife’: Understanding women’s sexual behaviour on holiday. *Culture, Health & Sexuality*, 7(6), 571–584. <https://doi.org/10.1080/13691050500256807>

Tremblay-Huet, S. (2020). COVID-19 leads to a new context for the “right to tourism”: A reset of tourists’ perspectives on space appropriation is needed. *Tourism Geographies*. <https://doi.org/10.1080/14616688.2020.1759136>

UNWTO (2020). *Tourism and COVID-19*. https://webunwto.s3.eu-west-1.amazonaws.com/s3fs-public/2020-04/COVID19_NewDS_.pdf

UNWTO (2020b). *Healing solutions for tourism challenge*. <https://www.unwto.org/healing-solutionstourism-challenge>

Yang, H. Y., & Chen, K. H. (2009). A general equilibrium analysis of the economic impact of a tourism crisis: A case study of the SARS epidemic in Taiwan. *Journal of Policy Research in Tourism, Leisure and Events*, 1(1), 37–60. <https://doi.org/10.1080/19407960902738313>

Van Herck, K., Castelli, F., Zuckerman, J., Nothdurft, H., Van Damme, P., Dahlgren, A. L., Gisler, S., Steffen, R., Gargalianos, P., Lopéz-Vélez, R., Overbosch, D., Caumes, E., & Walker, E. (2004). Knowledge, attitudes and practices in travel-related infectious diseases: the European airport survey. *Journal of Travel Medicine*, 11(1), 3–8. <https://doi.org/10.2310/7060.2004.13609>

Wan, Y. K. P. (2013). A comparison of the governance of tourism planning in the two Special Administrative Regions (SARs) of China–Hong Kong and Macao. *Tourism Management*, 36, 164–177. <https://doi.org/10.1016/j.tourman.2012.12.005>

Wang, Y. S. (2009). The impact of crisis events and macroeconomic activity on Taiwan's international inbound tourism demand. *Tourism Management*, 30(1), 75–82.
<https://doi.org/10.1016/j.tourman.2008.04.010>

WHO (2003). *Severe acute respiratory syndrome (SARS)–Updates*.
www.who.int/csr/sars/en/.

WHO (2004). *Summary of probable SARS cases with onset of illness 1 November 2002 to 31 July 2003*. http://www.who.int/csr/sars/country/table2004_04_21/en/.

WHO (2015). *MERS outbreak in the Republic of Korea, 2015*.
<https://www.who.int/westernpacific/emergencies/2015-mers-outbreak>

WHO (2020a). *Naming the coronavirus disease (COVID-19) and the virus that causes it*.
[https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technicalguidance/naming-the-coronavirus-disease-\(covid-2019\)-and-the-virus-that-causes-it](https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technicalguidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it)

WHO (2020b). *WHO announces COVID-19 outbreak a pandemic*.
<http://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/news/news/2020/3/who-announces-covid-19-outbreak-a-pandemic>

Zeng, B., Carter, R. W., & De Lacy, T. (2005). Short-term perturbations and tourism effects: The case of SARS in China. *Current Issues in Tourism*, 8(4), 306–322.
<https://doi.org/10.1080/136835005086>

¹ Funding Acknowledgement Statement : This article was supported by the Japan Society for the Promotion of Science with a Postdoctoral Fellowship (ID No. P19766) in 2019/2020/2021.