

# Chapter 27

## Challenges Associated with Medical Travel for Cancer Patients in the Arab World: A Systematic Review



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### 27.1 Introduction

#### 27.1.1 Background, Medical Travel, and Cancer

Medical travel is the practice of traveling abroad to seek healthcare services [1]. This practice has been growing in developing countries and people travel seeking healthcare for different reasons [1]. Since the Gulf Corporate Council countries are high-income countries, on many occasions' governments cover their patients for seeking healthcare overseas. In the UAE, it is estimated that US\$ 163 million was spent on treatment abroad for cancer care in 2013 [2]. A recent study by Alnakhi, et al., (2019), which was conducted in the UAE shows that cancer is one of the three top medical conditions that triggered people to travel abroad seeking healthcare.

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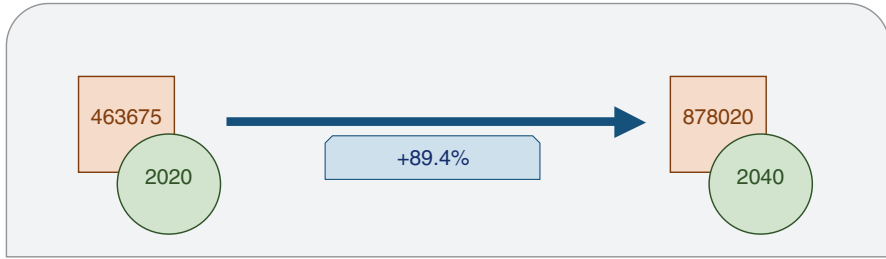
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**Fig. 27.1** Prediction of new cancer cases from the year 2020 till 2040 in Arab world countries, (0–85+), both sexes [4]. Data used with permission from the source—International Agency for Research on Cancer (IARC) By World Health Organization GLOBOCAN

Moreover, the same study showed the common destinations for seeking medical treatment among Emiratis were the UK, USA, India, and Thailand, with Germany being the top medical travel destination [3].

It has been noticed that the rate of cancer incidence is growing at an alarmingly high rate in Arab countries. According to the Global Cancer Observatory, there will be tremendous inflation in the cancer incidence rate from 4,63,675 in 2020 to 8,78,020 (around 1 million) by 2040 in 22 Arab countries [4].

Due to people's perceptions of their healthcare system and sometimes the unavailability of the treatment domestically, many patients would prefer seeking healthcare services overseas. Although in the Gulf Region, there are many comprehensive cancer centers available such as in the UAE and the Kingdom of Saudi Arabia. However, patients and their families tend to seek a second opinion from advanced specialized regions abroad, despite the reassurances given by their local, American, or Canadian board qualified physicians (Fig. 27.1) [1].

## 27.2 Factors Associated with Treatment Abroad for Cancer Patients

There are multiple factors that cancer patients would consider when seeking treatment abroad. Some factors are directly related to socio-demographic characteristics and medical conditions, while the rest might be related to the treatment options offered to those patients overseas. Many factors are related to the healthcare systems or services in either patients' home country or the treatment destinations.

### (a) *Patients' Characteristics*

Many factors contribute to patients' decision-making, to receive medical care from other destinations. These factors include age, gender, degree of illness, marital status, academic, and income level [3, 5]. Motivations, perceptions, and experiences of the patients will differ by the type and the severity of cancer and whether the treatment had used surgical or medical management [6].

**(b) *Treatment Options and Advanced Technology***

Unavailability of specialized treatment in patients' home country is one of the main reasons that push patients to treatment abroad. Moreover, the cost of the treatment and the treatment plan influence patients' decision-making. Given that some patients are covered by their government or health insurance, while some patients pay out of their pockets [6–8].

**(c) *Health System and Services***

Quality of the healthcare services provided abroad, physician qualifications and experience, availability of specialized treatment, facility reputation, short waiting time, and skills of medical and administrative staff, all are factors that attract patients to seek treatment overseas. Source of information such as word of mouth from local physicians, family, and friends about the treatment destination are important factors to shape patients' decisions to seek healthcare overseas. In many cases, even if the patients were treated domestically, they would consider overseas treatment for a second opinion [3, 6, 9].

### **27.3 Risks and Challenges Associated with Medical Travel and Cancer**

There are insufficient up-to-date empirical studies that discuss complications and challenges which are associated with the medical travel experience of oncology patients, especially in the Arab world from patients' perspectives. There is a scarcity of studies that looks in depth at the complications and challenges raised from the medical travel experience. In many scenarios, patients might face complications and challenges during or after receiving the treatment overseas. These challenges, if not tackled, could jeopardize patients' health status and quality of life. Quality improvement measures and synergism between the health system of patients' home country and treatment destination are necessary to ensure the best treatment plans are being given to patients. In addition, continuity of care with a proper follow-up care system and palliative care are vital to exist in the patient's home country for best patient outcomes [10]. This systematic review aims to summarize the evidence related to the complications and challenges associated with the medical travel experience for oncology patients in the Arab world.

### **27.4 Methods**

A systematic narrative review was followed, which is according to Booth et al. (2012), a type of review where the literature is reviewed comprehensively and systematically [11]. This methodology helps to descriptively summarize different study

designs using summary tables. Additionally, it helps to identify any gaps in the literature. Narrative reviews are usually used to provide a general overview of the existing knowledge, the topic, and to guide the formation of follow-up research questions [12].

The systematic review was conducted in January 2021, and a total of 76 articles were retrieved. After reviewing the articles for eligibility through title and abstract; 23 articles were considered for full-text review, 53 were excluded. Out of 23 articles, 14 were included, and the remaining 9 articles were excluded. Figure 27.2 summarizes the search strategy and selection process using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statements [13].

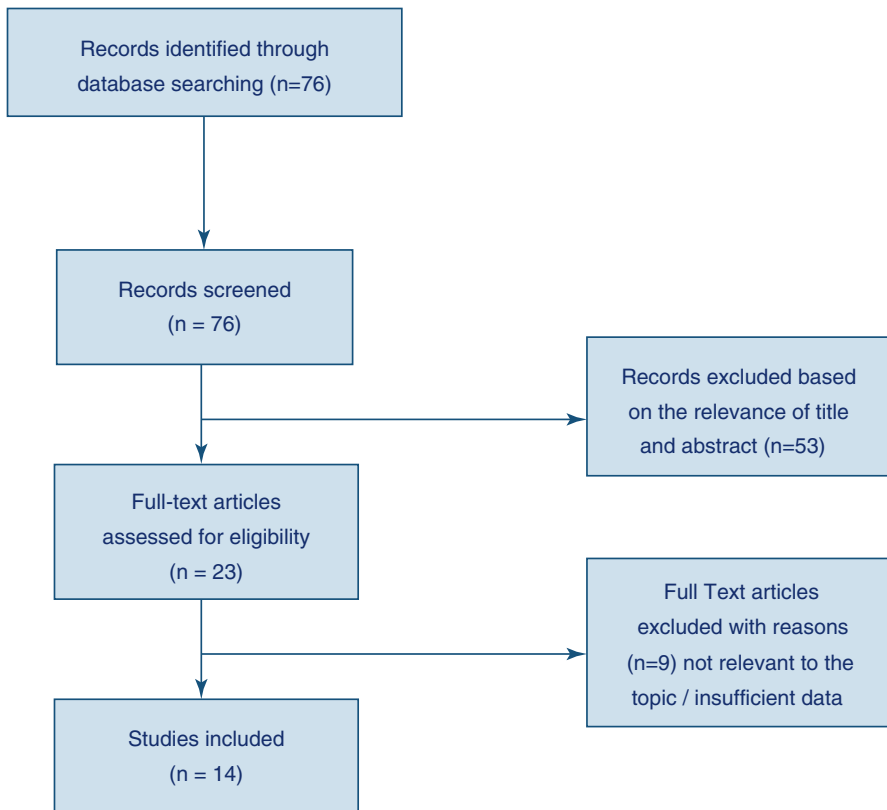


Fig. 27.2 Search strategy and article selection process using PRISMA [13]

**Table 27.1** Review protocol

	Inclusion criteria	Exclusion criteria
Population	Patients with malignancy traveling abroad for treatment	Patients who traveled abroad for other medical conditions
Intervention	Any intervention	None
Comparator	None	
Outcomes	Any risks associated with treatment abroad	None
Study	Qualitative, quantitative, and mixed Published in English peer-reviewed articles	Gray literature

### **27.4.1 Review Protocol**

The review protocol is shown in Table 27.1. Several models can be used to guide the search method according to the review by Eriksen and Frandsen (2018) [14]. In this review, PICOS (Population, Intervention, Comparator, Outcome, and Study type) model was used to guide the review process and key term selection.

### **27.4.2 Search Strategy**

Search terms were used in PubMed. Terms appearing in the title and abstract were combined to search for articles that examined patients with malignancy, who traveled abroad and had complications. The scanning of articles through title and abstract was carried out by two groups of researchers (two in each group), who divided the list of articles into half. Each group of researchers reviewed the articles independently and eventually compared their findings with each other. When there is a non-agreement about eligibility, a third researcher is consulted for the final decision. In the second stage, the full-text articles were reviewed and the ones that met the inclusion criteria were included in the review.

### **27.4.3 Sources of Data**

The search engines used for this literature review were limited to PubMed.

### **27.4.4 Inclusion Criteria**

Only studies that were published in English and freely accessible were reviewed. The search was limited to articles published on or after the year 2000. No limits were made for the study design or the setting within which the study was undertaken.

### **27.4.5 Exclusion Criteria**

Any study describing the pathophysiology, or the cost of the disease was excluded. Additionally, articles not discussing the complication or risks associated with traveling abroad for the management of malignancy were excluded.

### **27.4.6 Data Extraction and Data Synthesis**

Data extraction and data synthesis were performed using narrative synthesis. Tables were used simultaneously to summarize group essential information and results about the included studies. The headings of the tables were formulated around the research questions.

## **27.5 Results and Discussion**

Articles included in the review were classified into the following categories:

- I. Articles based on primary data collection both qualitative study and quantitative study including, interviews, surveys, case studies.
- II. Review articles: literature review and commentary.
- III. Study based on secondary sources such as retrospective studies, and secondary data analysis.

The number of participants in the systematic review ranged from  $n = 1$  participant in a case report review study to  $n = 6557$  from administrative dataset. 4 out of 14 of the articles originated from the UAE. Patients traveled to different destinations around the world seeking healthcare services for cancer. Most patients in the systematic review were from Asia, the Mediterranean, and the Middle East regions. Cancer patients traveled seeking healthcare overseas for different reasons ranging from treatment, examination, screening, second opinion, and end-of-life care. Although some studies did not specify or report the type of cancer, patients in this review traveled for different types of cancers. Description of the articles reviewed and the challenges associated with medical travel experience are illustrated in Tables [27.2A](#) and [27.2B](#).

**Table 27.2A** Description of included articles

No.	Reference	Country of study	Treatment distention	Patients home country	Target population	Type of cancer	Methods	No. of participants
1	Awano N, Takamoto T, Kawakami J, Genda A, Ninomiya A, Ikeda M, et al. [15]	Japan	Japan	Traveled from different destinations and languages spoken by the patients: Japanese, English, Chinese, Indonesian, Korean, and Mongolian	Patients with cancer who had traveled from abroad to receive second opinions, clinical examination & treatment	Liver cancer, Pancreatic cancer, Lung cancer, Colon cancer, Breast cancer, Intrahepatic cholangiocarcinoma, Malignant lymphoma, Ovarian cancer, Other types of cancer	Retrospective analysis; electronic charts and records	72
2	Hod K, Bronstein Y, Chodick G, Shpilberg O [16].	Israel	Israel	Israeli patients and patients from other destinations e.g., Russia, Ukraine, Kazakhstan, Georgia, Azerbaijan, Tazania, Uzbekistan, and Qatar.	All hemato-oncology tourists and Israeli patients diagnosed and/or treated at the Institute of Hematology, Assuta Medical Center	Hemato-oncology patients	Retrospective Study; hospital record	Not reported

(continued)

Table 27.2A (continued)

No.	Reference	Country of study	Treatment distention	Patients home country	Target population	Type of cancer	Methods	No. of participants
3	Alnakhi WK, Segal JB, Frick KD, Hussin A, Ahmed S, Mortlock L. [3]	UAE	Germany, UK, Thailand, USA, Spain, India, Singapore, Austria, Belgium, France, Swiss, Egypt, South Korea, China, Philippines, KSA, Slovenia, Jordan, Czech Republic, Indonesia, Italy, Morocco, Sweden, Turkey.	UAE	Patients from UAE who sought medical treatment overseas	Not Specified	Administrative data	6557
4	Skelton M, Alameddine R, Saifi O, Hammoud M, Zorkot M, Daher M, et al. [17]	Lebanon	Lebanon	Iraq	Iraqi patients and caregivers seeking cancer care at a tertiary referral center in Lebanon	Thymoma, Testicular cancer, multiple myeloma, liver cancer, Gastric cancer, Brain, Bladder, Adults Wilms tumor, Prostate cancer, Ovarian cancer, lung cancer, Hodgkin Lymphoma, Colon Cancer, Non-Hodgkin Lymphoma, Acute lymphoblastic Leukemia, Acute Myeloid Leukemia, Chronic Myeloid Leukemia	Qualitative Study; Patient Interview	60



No.	Reference	Country of study	Treatment distention	Patients home country	Target population	Type of cancer	Methods	No. of participants
5	Joensen BM, Nielsen S, Róin Á [18].	Faroe Island	Urban and rural areas in the Faroe Islands	Urban and rural areas in the Faroe Islands	Patients who had been through a cancer treatment course with a good prognosis volunteered to be interviewed	Not specified	Qualitative Study; Patient's interview	8
6	Galloway T, Horlick S, Cherba M, Cole M, Woodgate RL, Healey Akearok G [19].	Canada	Nunavut (Canada), Patients traveled to southern referral hospitals	Canada	Patients received cancer and/or end of life care;	Not specified;	Qualitative Study; Interview	10
7	Al-Shamsi HO, Abu-Gheida I, Rana SK, Nijhawan N, Abdulsamad AS, Alrawi S, et al. [10]	UAE	All Over medical treatment Destinations	UAE	Cancer patients returning to the UAE from treatment abroad	Not Specified	Review Study/ Recommendations for cancer patients	Not Reported
8	Young LK, Vimawala S, Ahmad N, Kushmir V, Bonawitz SC, Brody JD, et al. [20]	New Jersey (US)	USA	Liberia (One case) and in general from all over the world	Patients seeking medical care from the US	Head and Neck Cancer	Case Report/ Review	1
9	Alnakhi WK, Segal JB, Frick KD, Ahmed S, Mortlock L. [6]	UAE	UAE	USA	Patients & their families from Dubai	Not Specified	Cross-Sectional Study	336
10	Boeger Z [21].	USA	New Zealand/ Australia	Tonga	Healthcare Providers	Breast Cancer	Qualitative Study	20

(continued)

Table 27.2A (continued)

No.	Reference	Country of study	Treatment distention	Patients home country	Target population	Type of cancer	Methods	No. of participants
11	McCarthy AE, Mileno MD [22].	Canada	Not Reported	Not Reported	Immunocompromised travelers	Not Specified	Review	Not Reported
12	Whittaker, A [23].	Thailand	Thailand	Gulf Cooperation Council (GCC)	Patients & families from GCC	Not Specified	Case study	9
13	Al-Shamsi HO, Al-Hajjeli M, Alrawi S [1]	UAE	Not Specified	UAE and Saudi Arabic	Cancer Patients	Not Specified	Review, Response to Commentary	Not Reported
14	Oh KM, Jun J, Zhou Q, Kreps G [24].	USA	Korea	USA	Korean American Women aged 40 years or older.	Breast cancer Screening	Qualitative Study (Focused Group Interview)	34

**Table 27.2B** Summary of the challenges associated with medical treatment overseas

No.	Reference	Summary
1	Awano N, Takamoto T, Kawakami J, Genda A, Ninomiya A, Ikeda M, et al. [15]	<ul style="list-style-type: none"> <li>• Absence or incomplete referral documents.</li> <li>• Complications or unmet treatment goals.</li> <li>• Risks associated with returning home, continuation, and follow-up care.</li> </ul>
2	Hod K, Bronstein Y, Chodick G, Shpilberg O [16].	<ul style="list-style-type: none"> <li>• Patients present at the treatment destination with an advanced stage of the disease.</li> <li>• Commitment to the treatment plan whether at the treatment destination or the home country.</li> </ul>
3	Alnakhi WK, Segal JB, Frick KD, Hussin A, Ahmed S, Morlock L. [3]	<ul style="list-style-type: none"> <li>• Obtaining healthcare overseas associated with risks, complications, and high cost.</li> </ul>
4	Skelton M, Alameddine R, Saifi O, Hammoud M, Zorkot M, Daher M, et al. [17]	<ul style="list-style-type: none"> <li>• Financial distress when patients paying out of their pockets.</li> </ul>
5	Joensen BM, Nielsen S, Róin Á [18].	<ul style="list-style-type: none"> <li>• Lack of coherence and planning for continuity of care between home country and treatment destination.</li> <li>• Financial and social aspect challenges that may arise during the treatment phase.</li> </ul>
6	Galloway T, Horlick S, Cherba M, Cole M, Woodgate RL, Healey Akearok G [19].	<ul style="list-style-type: none"> <li>• Missing paid work.</li> <li>• Lack of support from family and community.</li> <li>• Language, communication, and cultural barriers at the treatment destination.</li> </ul>
7	Al-Shamsi HO, Abu-Gheida I, Rana SK, Nijhawan N, Abdulsamad AS, Alrawi S, et al. [10]	<ul style="list-style-type: none"> <li>• Interruption of therapy after returning home (during the period of COVID-19).</li> <li>• Disease management and different treatment modalities between patients' home country &amp; treatment destination.</li> </ul>
8	Young LK, Vimawala S, Ahmad N, Kushnir V, Bonawitz SC, Brody JD, et al. [20]	<ul style="list-style-type: none"> <li>• Visa process to the treatment destination.</li> </ul>
9	Alnakhi WK, Segal JB, Frick KD, Ahmed S, Morlock L. [6]	<ul style="list-style-type: none"> <li>• Complications during or after treatment.</li> </ul>
10	Boeger Z [21].	<ul style="list-style-type: none"> <li>• Patients with more unpredictable prognosis are more likely to have challenges with referral and cost of treatment.</li> </ul>
11	McCarthy AE, Mileno MD [22].	<ul style="list-style-type: none"> <li>• Immunocompromised travelers are at high risk of acquiring infection.</li> </ul>
12	Whittaker, A [23].	<ul style="list-style-type: none"> <li>• Patients with long stays overseas produce a considerable burden to their families who support them.</li> </ul>
13	Al-Shamsi HO, Al-Hajeili M, Alrawi S [1]	<ul style="list-style-type: none"> <li>• Delay in initiating the treatment plan due to getting approvals for travel.</li> <li>• Language and cultural barriers in the treatment destination.</li> <li>• Conflict of interests in the treatment destination when accepting patients for financial gains.</li> </ul>
14	Oh KM, Jun J, Zhou Q, Kreps G [24].	<ul style="list-style-type: none"> <li>• Continuation and follow-up care.</li> </ul>

In general, few studies and publications are discussing the risks and complications associated with medical travel, especially for oncology patients seeking treatment overseas. Although this systematic review aimed to look at the medical complications that may arise from the medical travel experience for oncology patients; other challenges were found. However, no details of medical challenges such as adverse events, medical errors, incidents, harms, or injuries were reported in these studies. The challenges reported in this systematic review can be grouped into the following themes: a) financial and economic aspects, b) medical care aspects c) social and cultural aspects.

### ***27.5.1 Financial and Economic Aspects***

Seeking treatment overseas might be associated with risk for financial distress. Financial distress may arise directly or indirectly. The direct financial risks are linked to the cost of treatment, whereas the indirect financial risks may arise due to the complications of the cancer treatment received overseas [3, 25, 26]. The main financial distress that was highlighted in this review originated from the patients, who are paying out of their pocket rather than those who are sponsored by their governments or insurance agencies. Skelton et al. (2020) discussed the financial distress of Iraqi patients who crossed the border to seek healthcare in Lebanon. Those patients had deficiencies in the healthcare in their home country with limited financial resources and had no choice other than to undergo cancer treatment in a neighboring country. The size of the financial distress increased with the repeated visits to the treatment destination [17]. Other studies highlighted the financial burden of medical travel that impacted both patients and their families, especially with long-stay overseas [18, 19, 23]. On many occasions when patients' companions are not sponsored, cancer patients will support their companions during their treatment journey. Moreover, Galloway, et al. (2020) reported that along with the cost of the travel, patients and their families may have other economic impacts such as missing paid work [19]. In addition, problems with payment might arise post the treatment phase, when the expenses are not covered by patients' insurance agencies [15].

### ***27.5.2 Medical Care Aspects***

Based on the findings of this review, challenges may arise at any stage of medical travel experience including pre, during, or post-treatment [15]. In the pre-treatment stage, challenges were linked to incomplete referral documents, along with a lack of information. Information such as pathological findings, laboratory data, a summary of imaging, examination findings, and previous treatment are necessary to oncologists in the treatment destinations to provide a better course of treatment to cancer

patients. Another challenge that may arise in this stage pertains to the timelines of treatment and travel. It is crucial to reduce the time between the initial diagnosis at the home country and receiving care at the treatment destinations [1, 16]. A delay in the pre-treatment phase might aggravate the patients' case due to the rapid progress of cancer over time. It is worth mentioning that immunocompromised patients might be at risk of acquiring infection at any stage of medical travel [22].

During the treatment phase, oncology patients receive a variety of treatment options including chemotherapy, radiation, surgery, or palliative care based on the stage of cancer and the treatment plan. Unfortunately, on some occasions, treatment goals are not met in this phase due to complications, side effects, or misdiagnosis in the first place [6, 27].

Additionally, some risks may arise in the post-treatment phase. These risks are associated with returning home, especially when there is no continuation of the treatment or if no proper follow-up care plans. Follow-up care is a concern that was raised in other studies from patients who experienced medical care overseas [24, 28]. Although many cancer patients might be stable during the treatment phase, the health status of the patients might deteriorate after treatment and when patients arrive home, especially patients with unpredictable prognosis [21]. On other occasions, patients might have difficulties committing to the treatment plan, whether during or after the treatment. Lack of coherence and planning in the treatment between patients' home countries and treatment destinations, whether it is due to health system issues or other reasons such as the interruption that occurred during the COVID-19 era will influence the outcomes as discussed by Al-Shamsi, Humaid O., et al. (2020) [10].

### ***27.5.3 Social and Cultural Aspects***

Challenges with cultural and social aspects were reported in some of the included reviewed articles [1, 19, 23]. For example, the commentary by Al Shamsi, Al Hajeili, and Alrawi (2018) highlighted the issues of communication between healthcare providers and international patients that could arise due to cultural and language differences. There is a cultural difference regarding disclosing information to patients. Some families, for example, do not prefer and are concerned to disclose the diagnosis and prognosis to their patients to avoid psychological distress. This challenging ethical situation may create a conflict between health care providers and patients' families particularly when healthcare providers do not take patients' and their families' culture into consideration in the treatment plan [1]. Other challenges were discussed in the review related to miscommunication between patients and healthcare providers regarding pain severity and management. For instance, patients from a few cultures might hide their pain during the treatment journey which may cause inappropriate assessment and management of pain by healthcare providers.

Moreover, lack of cultural awareness about patients' traditional ways of coping with illness, dying, and nonverbal communication was also stressed out in the

reviewed article [19]. On the other hand, the quality of interpretation was highlighted in some of the reviewed articles. This was exemplified in having unprofessional interpretation, assuming the role of an interpreter by a family member, or when the professional interpreters include their personal views and recommendations in the context which may lead to bias in the decision made by patients and their families around the treatment plan [1, 19].

Moreover, medical travel may cause a social burden. For example, in the study by Whittaker (2015) which aimed to describe the experience of outsourced patients and their families from the Gulf Cooperation Council, the study found that patients who stay for a long period overseas produce a considerable burden to their families who are supporting them [23]. Some instrumental problems such as delaying in issuing the travel visa were pointed out. Young et al. (2019) argued that some patients experienced a delay in initiating the treatment due to the process of obtaining a traveling visa from the treatment destination which may not work in favor of the patient's health status [20].

## 27.6 Strengths and Limitations

Despite the recent studies and publications about medical travel, there are no previous studies solely discussing the challenges and complications associated with medical travel, specifically for oncology patients whether on the international scope or in the Arab world. Therefore, this review can be considered the first systematic review that discusses the challenges and the issues faced by cancer patients during their medical travel experience. This chapter has identified three main aspects that can be addressed to overcome the challenges associated with medical travel in the future. These challenges can be tackled at the different stages of the medical travel experience to have better patient outcomes. In addition, implications from this review can guide future decision-making, and create quality improvement measures and actions related to the challenges associated with medical travel for oncology patients in the three main aspects.

It is also important to acknowledge the limitations of this review. One database was used for this study due to limited access to other databases. In the review, we found that many issues and challenges might accompany the medical travel experience and are not only directly associated with receiving the medical care service, as other aspects of cancer patients' lives are also involved. In this review, we focused only on the challenges associated with the medical travel experience of oncology patients and did not consider the benefits that may come with the experience. Looking at both sides of the medical travel experience, positive and negative, might give a holistic and better picture of the experience. Only articles published in English were included in this review. Other languages and gray literature were not used for this review, although they might add more information to the topic. Due to the limited studies that discuss the challenges and issues of medical travel for cancer patients in the Arab world, it was difficult to narrow the scope of this review to the Arab world only.

## 27.7 Conclusion

In this chapter, we present the first study to systematically review challenges associated with medical travel for oncology patients seeking healthcare services outside their home country. Some challenges are associated with medical travel including economic and financial, medical care, and social and cultural challenges. In general, there is a scarcity of relevant studies that discuss this topic whether quantitatively, or qualitatively, especially in the Arab world. Such studies are vital to patients, healthcare providers, health insurance, health policymakers, and the different stakeholders involved in the medical travel market. Having sufficient information about the challenges associated with the medical travel experience will assist in creating better synergy between patients' home countries and treatment destination's healthcare systems when dealing with medical travelers. Overall, more research studies are required in this area to inform the different stakeholders involved in the medical travel field to analyze and overcome the challenges associated with this practice. Studies related to the risks and challenges associated with medical travel, will no doubt better characterize the risk profile associated with the medical travel industry at the different phases before, during, and after the medical travel experience for oncology patients.

**Conflict of Interest** Authors have no conflict of interest to declare.

## References

1. Al-Shamsi H, Al-Hajeili M, Alrawi S. Chasing the cure around the globe: medical tourism for cancer care from developing countries. *J Glob Oncol*. 2018;4:1–3.
2. Abdularoup S. 600 million UAE Dirhams spent on cancer care medical tourism. *Ittihad Newspaper*. 2014.
3. Alnakh WK, Segal JB, Frick KD, Hussin A, Ahmed S, Morlock L. Treatment destinations and visit frequencies for patients seeking medical treatment overseas from the United Arab Emirates: results from Dubai Health Authority reporting during 2009–2016. *Trop Dis Travel Med Vaccines*. 2019;5(1):1.
4. Ferlay J, Laversanne M, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, Znaor A, Soerjomataram I, Bray F. Global cancer observatory: cancer tomorrow. Lyon: International Agency for Research on Cancer; 2020. Available from <https://gco.iarc.fr/tomorrow>. Accessed 23 Jan 2021
5. Al-Hinai SS, Al-Busaidi AS, Al-Busaidi IH. Medical tourism abroad: a new challenge to Oman's health system-Al Dakhilya region experience. *Sultan Qaboos Univ Med J*. 2011;11(4):477.
6. Alnakh WK, Segal JB, Frick KD, Ahmed S, Morlock L. Motivational factors for choosing treatment destinations among the patients treated overseas from the United Arab Emirates: results from the knowledge, attitudes and perceptions survey 2012. *Trop Dis Travel Med Vaccines*. 2019;5(1):1–7.
7. Kim S, Arcodia C, Kim I. Critical success factors of medical tourism: the case of South Korea. *Int J Environ Res Public Health*. 2019;16(24):4964.
8. Lunt N, Smith R, Exworthy M. Medical tourism: treatments, markets and health system implications: a scoping review. Paris: Organisation for Economic Co-operation and Development; 2011.

9. Burney IA. The trend to seek a second opinion abroad amongst cancer patients in Oman: challenges and opportunities. *Sultan Qaboos Univ Med J*. 2009;9(3):260.
10. Al-Shamsi HO, Abu-Gheida I, Rana SK, Nijhawan N, Abdulsamad AS, Alrawi S, Abuhaleeqa M, Almansoori TM, Alkasab T, Alessa EM, McManus MC. Challenges for cancer patients returning home during SARS-COV-19 pandemic after medical tourism-a consensus report by the emirates oncology task force. *BMC Cancer*. 2020;20(1):1–10.
11. Booth A, Papaioannou D, Sutton A. *Systematic approaches to a successful literature review*. London: Sage Publications; 2012.
12. Pae CU. Why systematic review rather than narrative review? *Psychiatry Investig*. 2015;12(3):417.
13. Liberati A, Altman DG, Tetzlaff J, Mulrow C, Gøtzsche PC, Ioannidis JP, Clarke M, Devereaux PJ, Kleijnen J, Moher D. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration. *J Clin Epidemiol*. 2009;62(10):e1–e34.
14. Eriksen MB, Frandsen TF. The impact of patient, intervention, comparison, outcome (PICO) as a search strategy tool on literature search quality: a systematic review. *J Med Libr Assoc*. 2018;106(4):420.
15. Awano N, Takamoto T, Kawakami J, Genda A, Ninomiya A, Ikeda M, Matsuno F, Izumo T, Kunitoh H. Issues associated with medical tourism for cancer care in Japan. *Jpn J Clin Oncol*. 2019;49(8):708–13.
16. Hod K, Bronstein Y, Chodick G, Shpilberg O. Hemato-oncology tourism in Israel: a retrospective review. *JCO Glob Oncol*. 2020;6:1314–20.
17. Skelton M, Alameddine R, Saifi O, Hammoud M, Zorkot M, Daher M, Charafeddine M, Temraz S, Shamseddine A, Mula-Hussain L, Saleem M. High-cost cancer treatment across borders in conflict zones: experience of Iraqi patients in Lebanon. *JCO Glob Oncol*. 2020;6:59–66.
18. Joensen BM, Nielsen S, Róin Á. Barriers to quality of care for cancer patients in rural areas: a study from the Faroe Islands. *J Multidiscip Healthc*. 2020;13:63.
19. Galloway T, Horlick S, Cherba M, Cole M, Woodgate RL, Healey AG. Perspectives of Nunavut patients and families on their cancer and end of life care experiences. *Int J Circumpolar Health*. 2020;79(1):1766319.
20. Young LK, et al. Review of inbound medical tourism and legal details of obtaining a visa for treatment of head and neck cancer. *Head Neck*. 2019;41(8):E125–32.
21. Boeger Z. Incorporating mammography into an overseas referral metric: Tongan doctors' assessments of patient eligibility for medical travel. *Soc Sci Med*. 2020;1(254):112355.
22. McCarthy AE, Mileno MD. Prevention and treatment of travel-related infections in compromised hosts. *Curr Opin Infect Dis*. 2006;19(5):450–5.
23. Whittaker A. 'Outsourced' patients and their companions: stories from forced medical travelers. *Glob Public Health*. 2015;10(4):485–500.
24. Oh KM, Jun J, Zhou Q, Kreps G. Korean American women's perceptions about physical examinations and cancer screening services offered in Korea: the influences of medical tourism on Korean Americans. *J Community Health*. 2014;39(2):221–9.
25. Sheppard CE, Lester EL, Chuck AW, Kim DH, Karmali S, de Gara CJ, Birch DW. Medical tourism and bariatric surgery: who pays? *Surg Endosc*. 2014;28(12):3329–36.
26. Kim DH, Sheppard CE, de Gara CJ, Karmali S, Birch DW. Financial costs and patients' perceptions of medical tourism in bariatric surgery. *Can J Surg*. 2016;59(1):59.
27. Hanefeld J, Horsfall D, Lunt N, Smith R. Medical tourism: a cost or benefit to the NHS? *PLoS One*. 2013;8(10):e70406.
28. Eissler LA, Casken J. Seeking health care through international medical tourism. *J Nurs Scholarsh*. 2013;45(2):177–84.





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