

An Anxiety Management Model in Medical Tourism Patients: A Meta-Synthesis Study

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Citation: Akhbarati, I., & Nasehifar, V. (2026). An Anxiety Management Model in Medical Tourism Patients: A Meta-Synthesis Study. *Business, Marketing, and Finance Open*, 3(5), 1-13.

Received: 01 January 2026

Revised: 11 May 2026

Accepted: 18 May 2026

Initial Publication: 03 August 2026

Final Publication: 01 September 2026



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Abstract: The present study was conducted with the aim of presenting an anxiety management model for patients in medical tourism. In this research, the meta-synthesis method was employed based on the approach proposed by Sandelowski and Barroso (2007). Accordingly, a broad collection of articles related to patient anxiety, medical tourism, patient experience, facilitating technologies, and factors influencing patients' attitudes and perceptions published between 2000 and 2025 was extracted and reviewed. Based on the obtained findings, the final research model consisted of six main themes and 23 sub-themes, including communicative governance and therapeutic trust-building (transparency of treatment information and costs, professional honesty of medical staff toward patients, continuous responsiveness and accessibility of the treating physician); management of the patient's psychological experience (prior assessment of patient anxiety before admission, supportive psychological interventions during treatment, follow-up of the patient's psychological condition after treatment); cultural competence and intercultural communication (alignment of healthcare services with the patient's cultural beliefs, familiarity of medical staff with patients' cultural differences, respect for the patient's values, language, and lifestyle); cognitive and informational empowerment of the patient (education about the treatment process in understandable language, enhancement of health literacy among international patients, reduction of therapeutic ambiguity and uncertainty); management of the physical environment and hospital services (creating a calm and stress-reducing environment, quality of patient admission and discharge services, orderliness); social and family support for the patient (possibility of accompaniment by family members or therapeutic companions, communication with patients with similar experiences, emotional support from hospital staff); and continuity of tourism-treatment services (coordination of treatment services with accommodation and transportation, reduction of stress related to administrative and travel processes).

Keywords: Anxiety management, medical tourism, continuity of tourism-treatment services, intercultural communication.

1. Introduction

Medical tourism has emerged as one of the fastest-growing sectors within the global healthcare and hospitality industries, driven by rising healthcare costs, unequal access to advanced medical services, long waiting times in domestic healthcare systems, and the increasing globalization of health services [1, 2]. In recent years, countries across Asia, the Middle East, and Eastern Europe have increasingly invested in medical tourism infrastructure in an effort to attract international patients and generate sustainable economic benefits [3, 4]. The development of digital health technologies, smart healthcare systems, and online medical communication platforms has further accelerated this trend by enabling patients to compare treatment destinations, physicians,

and service quality before traveling abroad for treatment [5, 6]. Nevertheless, despite the rapid expansion of medical tourism, psychological dimensions of the patient experience—particularly anxiety management—remain relatively underexplored within both tourism management and healthcare management literature.

Anxiety is one of the most prevalent psychological reactions experienced by patients during medical treatment processes and is often intensified in medical tourism contexts due to geographical displacement, unfamiliar healthcare systems, cultural differences, language barriers, and uncertainty regarding treatment outcomes [7, 8]. Unlike conventional healthcare environments in which patients may benefit from familiar social and cultural support systems, medical tourists frequently encounter situations characterized by informational ambiguity, communication difficulties, and emotional vulnerability [9, 10]. Anxiety in medical tourism settings may therefore extend beyond clinical concerns and encompass travel-related fears, financial stress, cultural insecurity, and distrust toward foreign healthcare providers [11, 12]. This multidimensional nature of anxiety highlights the necessity of adopting a holistic management approach that integrates psychological, organizational, cultural, and technological dimensions.

The growing significance of patient-centered healthcare has shifted the focus of healthcare organizations from purely clinical outcomes toward comprehensive patient experiences that include emotional well-being, satisfaction, trust, and perceived service quality [10, 13]. In medical tourism, patient experience becomes even more critical because treatment decisions are highly influenced by perceived risk, trust formation, and emotional comfort [14]. Patients who experience elevated levels of anxiety may demonstrate lower treatment satisfaction, weaker trust in healthcare providers, reduced adherence to treatment protocols, and decreased intention to revisit or recommend medical destinations to others [11, 13]. Consequently, anxiety management is not merely a psychological issue but also a strategic managerial concern affecting destination competitiveness, healthcare branding, patient loyalty, and international reputation.

Several studies have emphasized that anxiety among medical tourists may emerge at different stages of the healthcare journey, including pre-travel decision-making, preoperative periods, hospitalization, treatment procedures, discharge, and post-treatment recovery [15, 16]. Pre-treatment anxiety is often associated with uncertainty regarding treatment quality, physician competence, hidden costs, and possible complications [17, 18]. During treatment, patients may experience fear resulting from unfamiliar environments, perceived communication barriers, and isolation from family support systems [19, 20]. Following discharge, anxiety may persist in the form of concerns regarding treatment follow-up, recovery outcomes, continuity of care, and access to healthcare providers after returning home [21, 22]. These findings suggest that anxiety in medical tourism is a dynamic process that requires integrated and continuous management strategies rather than isolated clinical interventions.

The literature on healthcare anxiety management demonstrates that transparent communication, empathetic physician–patient relationships, psychological counseling, and educational interventions play critical roles in reducing patient anxiety and improving healthcare outcomes [23, 24]. Studies on supplementary educational tools, such as video-based patient education and digital information systems, have shown that providing understandable and accurate information can significantly reduce uncertainty and enhance patients’ perceived control over treatment processes [17, 18]. Similarly, research on immersive technologies, including virtual reality interventions, indicates that technological innovations can effectively reduce procedural anxiety and increase emotional comfort among patients undergoing stressful medical procedures [20, 25]. These developments imply that anxiety management in medical tourism should incorporate both human-centered communication strategies and advanced technological solutions.

Trust is another fundamental factor shaping anxiety experiences among medical tourists. International patients often evaluate healthcare providers not only based on medical expertise but also according to transparency, responsiveness, ethical conduct, and perceived empathy [7, 23]. Weak communication or contradictory information may increase cognitive dissonance, emotional stress, and dissatisfaction with healthcare experiences [14]. Conversely, professional honesty, accessibility of physicians, and timely responses to patient concerns may reduce uncertainty and strengthen therapeutic trust [13, 26]. The management of doctor–patient relationships therefore represents a core managerial dimension of medical tourism services and directly influences patients' emotional security and psychological adaptation.

Cultural competence also constitutes a central component of anxiety management within international healthcare contexts. Medical tourists frequently originate from diverse cultural, religious, and linguistic backgrounds, which may affect their expectations, perceptions of care quality, coping mechanisms, and emotional reactions [9, 27]. Inadequate awareness of cultural sensitivities among healthcare providers may lead to misunderstandings, distrust, and increased anxiety [10, 11]. Previous studies have emphasized that culturally adaptive healthcare services, multilingual communication support, and respect for patients' beliefs and lifestyles can significantly improve patient comfort and satisfaction [6, 14]. As a result, intercultural communication competence should be viewed as a strategic organizational capability in medical tourism management.

Another important dimension concerns the role of digital technologies and artificial intelligence in shaping contemporary healthcare experiences. Digital medical tourism platforms, telemedicine systems, online consultation services, and AI-supported communication tools have transformed how patients access information and interact with healthcare providers [5, 6]. While technological advancements may improve convenience and accessibility, they may simultaneously generate new forms of anxiety related to data privacy, trust in AI systems, and depersonalized healthcare interactions [26, 28]. Therefore, the integration of digital technologies into medical tourism requires careful consideration of psychological and emotional impacts on patients. Healthcare organizations must balance technological efficiency with emotional support and human-centered care.

Environmental and organizational factors within healthcare facilities also play a decisive role in influencing patient anxiety. Research indicates that physical surroundings, environmental hygiene, waiting times, administrative complexity, and service coordination can substantially affect patients' emotional states and perceived safety [21, 22]. Stressful hospital environments characterized by noise, overcrowding, procedural ambiguity, or inefficient administrative systems may intensify patient anxiety and reduce treatment satisfaction [7, 19]. In contrast, calm environments, organized admission and discharge procedures, and supportive staff interactions contribute to psychological comfort and trust formation [23, 25]. These findings emphasize that anxiety management should extend beyond clinical treatment and encompass the broader service ecosystem surrounding medical tourists.

Social support has similarly been identified as a critical protective factor against anxiety and emotional distress among patients. The presence of family members, emotional encouragement from healthcare staff, and interaction with individuals who have experienced similar treatment journeys may enhance coping capacity and reduce feelings of isolation [8, 19]. In medical tourism contexts, where patients are often physically separated from their social networks, the absence of support systems may amplify emotional vulnerability [15, 16]. Consequently, healthcare organizations should design patient support mechanisms that strengthen emotional connectedness and provide psychological reassurance throughout the treatment journey.

Despite the growing body of literature related to patient experience, healthcare quality, and medical tourism development, existing studies remain fragmented and dispersed across different disciplines, including healthcare management, psychology, tourism studies, digital health, and hospitality management [3, 9]. Most previous studies have focused on isolated aspects of anxiety, such as procedural fear, technological interventions, patient satisfaction, or travel willingness, without offering an integrated framework that explains how multiple organizational, psychological, cultural, and environmental factors interact in shaping patient anxiety within medical tourism settings [11, 12]. Moreover, the majority of empirical research has concentrated on clinical or technological solutions rather than comprehensive managerial models capable of guiding policymakers, healthcare organizations, and tourism stakeholders.

Given the strategic importance of medical tourism for healthcare economies and the critical influence of emotional well-being on patient experiences, there is a clear need for a comprehensive conceptual model that synthesizes the diverse determinants of anxiety management in medical tourism contexts [1, 2]. Such a model could contribute to the development of patient-centered policies, improve healthcare competitiveness, enhance service quality, and strengthen the international reputation of medical tourism destinations [4, 27]. Furthermore, understanding the multidimensional nature of anxiety management may help healthcare organizations design integrated strategies that combine communication governance, psychological support, cultural competence, technological facilitation, and continuity of care.

Therefore, the present study aims to develop a comprehensive model for managing patient anxiety in medical tourism through a meta-synthesis approach based on the integration and analysis of previous scientific studies.

2. Methodology

This study is applied in terms of purpose and descriptive–interpretive and inductive in nature, conducted with the aim of developing a comprehensive framework for patient anxiety management. Data collection was carried out through library-based studies and a systematic review of the literature published between 2000 and 2025. For the analysis of findings, the meta-synthesis method proposed by Sandelowski and Barroso (2007) was employed in five stages, including question formulation, literature search, quality appraisal, data extraction, and synthesis. Sources were selected based on inclusion criteria (scientific credibility, relevance to anxiety and medical tourism, Persian or English language, and availability of full text) and exclusion criteria (non-scientific reports, exclusive focus on macroeconomic aspects, and methodological deficiencies). During the analysis phase, after extracting initial codes and categorizing the main and sub-themes, the final model of anxiety management in medical tourism was developed, which may serve as a basis for policymaking and improving patients' treatment experiences.

Table 1. Methodological Framework of the Study

Component	Description
Research Objective	Identification and explanation of the anxiety management model for patients in medical tourism
Research Type	Applied
Nature of Research	Descriptive–interpretive
Research Approach	Qualitative
Logic of Reasoning	Inductive
Data Collection Method	Library-based studies, documentary analysis, and systematic literature review
Time Span of Studies	2000–2025
Method of Analysis and Synthesis	Barroso–Sandelowski Meta-synthesis (2007)

Meta-synthesis Stages	Research question formulation, systematic search, quality appraisal, extraction of findings, synthesis of themes
Inclusion Criteria	Valid scientific studies related to medical tourism, patient anxiety, patient experience, and health technologies, with full-text availability
Exclusion Criteria	Non-scientific sources, studies lacking scientific methodology, duplicate studies, studies unrelated to patients' psychological conditions, incomplete accessibility
Data Analysis Method	Extraction of initial codes, integration of homogeneous concepts, categorization into sub-themes and main themes

3. Findings and Results

In order to identify, screen, and select eligible studies, the source selection process was conducted in accordance with the PRISMA 2020 guidelines and through four sequential stages, including identification, screening, eligibility assessment, and final inclusion. As illustrated in Figure 1, a total of 9,126 scientific records were retrieved from *معتبر* databases during the identification stage. After removing 3,984 duplicate records, 5,142 unique articles remained for the screening stage. During screening, article titles and abstracts were reviewed, and studies lacking thematic relevance to the research objectives were excluded. Consequently, 4,718 articles were removed, and 424 articles entered the eligibility assessment stage. In the eligibility assessment phase, the full texts of the articles were thoroughly reviewed, and studies with inaccessible full texts, methodological weaknesses, or insufficient conceptual alignment with the research themes were excluded. As a result, 356 articles were removed, and 68 articles were identified as initially eligible studies. Finally, during the final inclusion stage, by applying qualitative criteria such as methodological appropriateness, comprehensive coverage of key concepts, analytical richness, and scientific quality, 27 articles were selected as the final sample and entered the meta-synthesis phase.

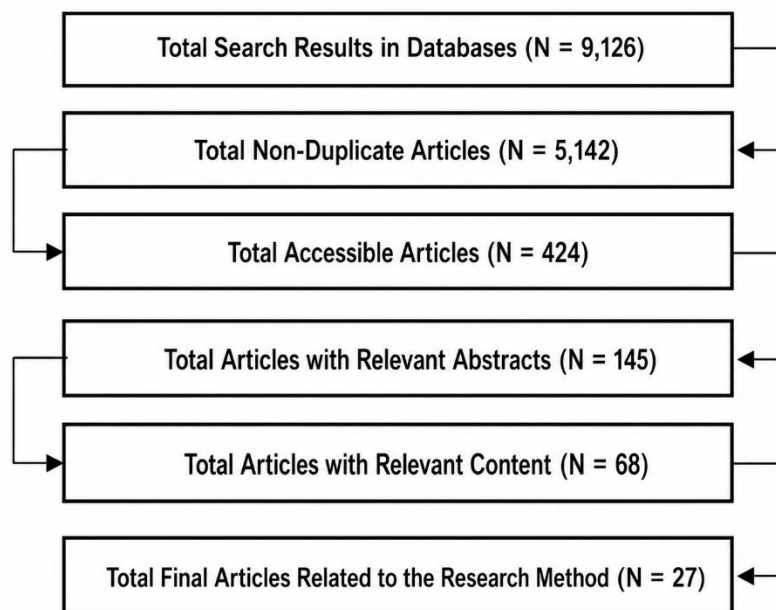


Figure 1. Results of the Search and Article Selection Process

The CASP method is one of the recognized tools for assessing the quality of research studies, particularly in systematic reviews and qualitative research. This instrument provides a series of checklists for different types of studies. The checklist includes 10 key questions aimed at evaluating the validity, significance, and applicability of article findings. The results obtained from evaluating the selected articles using the CASP method are presented in Figure 2.

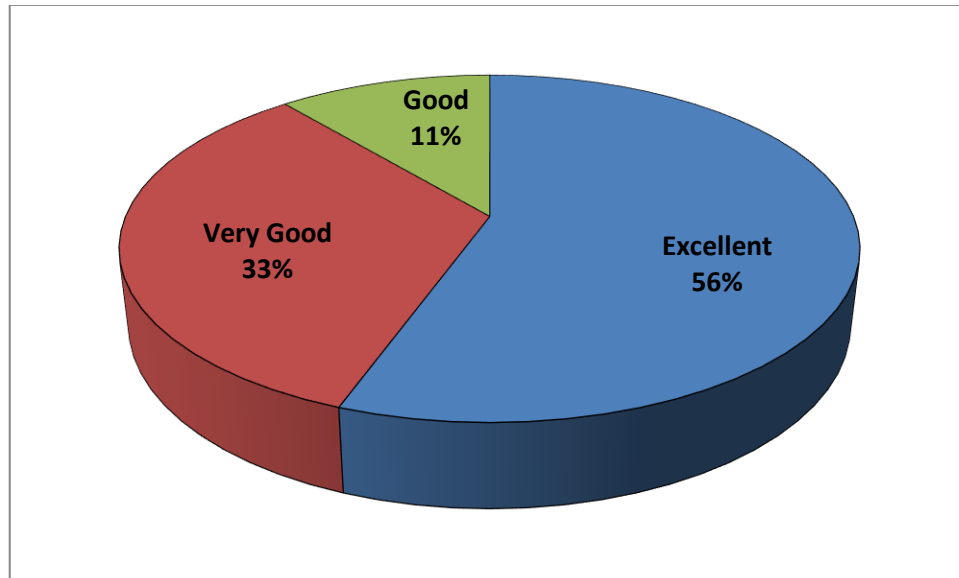


Figure 2. Results of Article Evaluation Within the CASP Framework

Through repeated review of the 27 final articles selected for the meta-synthesis process, the required information was extracted and transformed into retrievable codes. Overall, 71 codes were identified in this study, which were finalized according to Table 2.

Table 2. Summary of Extracted Codes

Conceptual Code	Source
Providing accurate and unambiguous information regarding treatment procedures	Şahin et al. (2025); Kiali et al. (2025); Kok et al. (2025)
Transparent disclosure of costs before treatment initiation	Majeed et al. (2024); Shoukat et al. (2025)
Avoidance of contradictory or misleading information	Putra et al. (2024); To (2026); Wang et al. (2025)
Prevention of patient financial shock	Singh et al. (2024); Garad et al. (2025); Al Romeedy et al. (2025)
Adherence to principles of professional medical ethics	Lewis et al. (2025); Wang et al. (2025)
Avoidance of exaggerating treatment outcomes	Kok et al. (2025); Vanoli et al. (2024); Anar and Kirtıl (2025); Nasehi Far (2025)
Honest communication regarding treatment risks and limitations	Anar and Kirtıl (2025); McDonald et al. (2024)
Possibility of direct communication between patient and physician	Kim et al. (2025); Wang et al. (2025); Al Romeedy et al. (2025)
Timely response to patient questions and concerns	To (2026); Putra et al. (2024)
Continuity of communication throughout the treatment process	Al Romeedy et al. (2025); Garad et al. (2025); Kim et al. (2025)
Active attention to patients' emotional concerns	Lebovidge and Schneider (2025); Hart et al. (2025)
Respectful and humane treatment of patients	Wang et al. (2025); Lewis et al. (2025); Abbasi et al. (2022)
Creating psychological security in therapeutic interactions	Hart et al. (2025); Gold et al. (2024); Arthur et al. (2025)
Assessment of anxiety level before treatment initiation	Hart et al. (2025); Anar and Kirtıl (2025)
Identification of individual anxiety-generating factors	Kok et al. (2025); Lebovidge and Schneider (2025); Wang et al. (2025)
Screening for potential anxiety disorders	Hart et al. (2025); Wang et al. (2025)
Use of psychological relaxation techniques	Arthur et al. (2025); Kyei et al. (2025); Gold et al. (2024)
Reduction of stress caused by unfamiliar treatment environments	Gold et al. (2024); Malodia et al. (2025); Nasehi Far (2025)
Emotional support during treatment procedures	Lewis et al. (2025); Vanoli et al. (2024)
Monitoring anxiety after discharge	Lebovidge and Schneider (2025); Vanoli et al. (2024); McDonald et al. (2024)
Evaluation of patients' psychological satisfaction with treatment	Putra et al. (2024); To (2026)
Prevention of post-treatment anxieties	Lewis et al. (2025); Vanoli et al. (2024); Sorkheh Dehi (2025)

During the qualitative data analysis process and in order to achieve a higher level of conceptual abstraction, the 71 extracted conceptual codes were categorized into 23 sub-themes following several stages of review, constant comparison, and conceptual integration.

Table 3. Classification of Extracted Codes Into Basic Themes

Sub-theme	Conceptual Code
Transparency of treatment information and costs	Providing accurate and unambiguous information regarding treatment procedures
	Transparent disclosure of costs before treatment initiation
	Avoidance of contradictory or misleading information
	Prevention of patient financial shock
Professional honesty of medical staff toward patients	Adherence to principles of professional medical ethics
	Avoidance of exaggerating treatment outcomes
	Honest communication regarding treatment risks and limitations
Continuous responsiveness and physician accessibility	Possibility of direct communication between patient and physician
	Timely response to patient questions and concerns
	Continuity of communication throughout the treatment process
Strengthening the empathetic physician–patient relationship	Active attention to patients’ emotional concerns
	Respectful and humane treatment of patients
	Creating psychological security in therapeutic interactions
	Assessment of anxiety level before treatment initiation
Preliminary assessment of patient anxiety	Identification of individual anxiety-generating factors
	Screening for potential anxiety disorders

In the next phase of analysis and with the aim of achieving a higher level of theoretical abstraction, the 23 identified sub-themes were organized and integrated into seven main themes through constant comparison, examination of internal relationships, and analysis of conceptual overlaps. This process was carried out based on semantic similarities, causal relationships, and shared functions among the sub-themes, in such a way that each main theme represented a broad and comprehensive dimension of anxiety management in medical tourism.

Table 4. Final Classification of Sub-themes Into Main Themes

Main Theme	Sub-theme
Communicative Governance and Therapeutic Trust-Building	Transparency of treatment information and costs
	Professional honesty of medical staff toward patients
	Continuous responsiveness and accessibility of the treating physician
	Strengthening the empathetic physician–patient relationship
Management of the Patient’s Psychological Experience	Preliminary assessment of patient anxiety before admission
	Supportive psychological interventions during treatment
	Monitoring patients’ psychological status after treatment
	Use of counselors or clinical psychologists
Cultural Competence and Intercultural Communication	Alignment of healthcare services with patients’ cultural beliefs
	Familiarity of medical staff with patients’ cultural differences
	Respect for patients’ values, language, and lifestyle
Cognitive and Informational Empowerment of Patients	Education about the treatment process in understandable language
	Increasing health literacy among international patients
	Reduction of therapeutic ambiguity and uncertainty
Management of the Physical Environment and Hospital Services	Creating a calm and stress-reducing environment
	Quality of patient admission and discharge services
	Orderliness, hygiene, and environmental standards

Social and Family Support for Patients	Possibility of accompaniment by family members or treatment companions
	Patient interaction with similar patients (shared experience)
	Emotional support from hospital staff
Continuity of Tourism–Treatment Services	Coordination of treatment services with accommodation and transportation
	Reduction of stress related to administrative and travel procedures
	Patient support before, during, and after return

In order to ensure quality control, reliability, and validity of the qualitative analysis results, two recognized indices, namely Cohen’s Kappa coefficient and Holsti’s agreement coefficient, were utilized. A portion of the coded data was independently recoded by a second researcher, and the level of agreement between the two coders was calculated. The findings indicated that Cohen’s Kappa coefficient was 0.84, which, according to accepted standards, reflects a very good level of agreement between coders and demonstrates the high reliability of the coding process. Furthermore, Holsti’s coefficient was obtained as 0.87, indicating a high degree of consistency and coherence in code allocation.

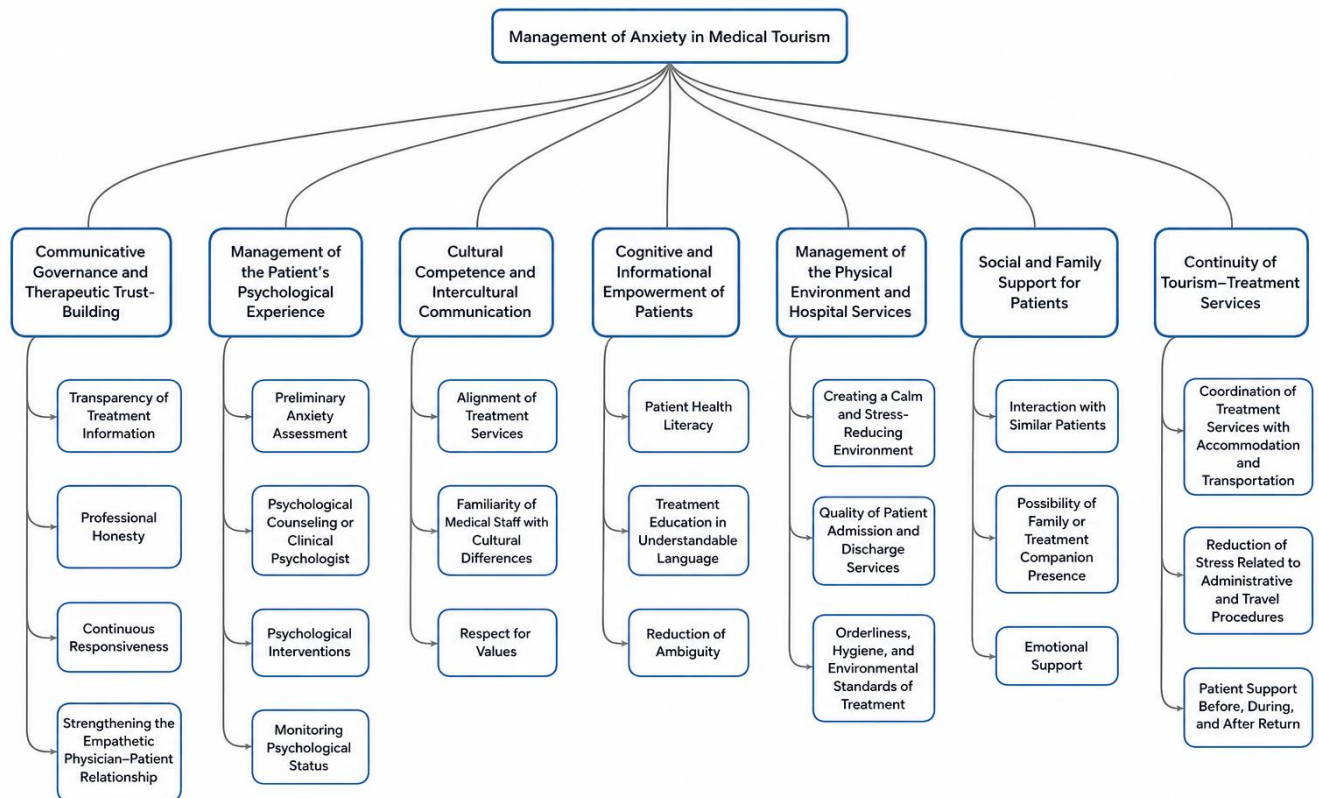


Figure 3. Final Model of Anxiety Management in Medical Tourism Patients

4. Discussion and Conclusion

The present study aimed to develop a comprehensive model for managing patient anxiety in medical tourism using a meta-synthesis approach. The findings revealed that anxiety management in medical tourism is a multidimensional phenomenon shaped by communicative governance and therapeutic trust-building,

management of the patient's psychological experience, cultural competence and intercultural communication, cognitive and informational empowerment, management of the physical environment and hospital services, social and family support, and continuity of tourism–treatment services. The identified framework demonstrates that patient anxiety in medical tourism extends beyond clinical concerns and is deeply influenced by organizational, cultural, emotional, and technological dimensions. These findings confirm that medical tourism should not merely be viewed as a healthcare transaction but rather as a complex experiential process requiring integrated managerial and psychological interventions.

One of the most significant findings of this study was the central role of communicative governance and therapeutic trust-building in reducing patient anxiety. The results indicated that transparency of treatment information, professional honesty, continuous responsiveness, and empathetic physician–patient relationships substantially contribute to emotional security among medical tourists. This finding is consistent with previous studies emphasizing that ambiguity in treatment procedures, hidden costs, and weak communication intensify uncertainty and emotional distress among patients [11, 14]. Similarly, Wang et al. demonstrated that poor doctor–patient relationships significantly increase anxiety and distrust among patients with physical illnesses [7]. The present findings also align with research by Putra et al., who found that responsiveness and trust formation positively influence patient satisfaction and revisit intentions in medical tourism [13]. These results may be explained by the fact that medical tourists often make treatment decisions in environments characterized by incomplete information and perceived vulnerability; therefore, transparent communication and ethical behavior function as mechanisms for reducing cognitive uncertainty and strengthening perceived control.

Another major finding was the importance of managing the patient's psychological experience throughout the treatment journey. The study showed that preliminary anxiety assessment, psychological interventions, emotional support during treatment, and post-treatment follow-up are essential components of effective anxiety management. This finding corresponds with clinical literature demonstrating that untreated anxiety can negatively affect treatment adherence, satisfaction, and recovery outcomes [8, 23]. The findings are also supported by Anar and Kirtil, who highlighted the relationship between preoperative anxiety and patient satisfaction among individuals engaged in bariatric surgery tourism [15]. Moreover, research on procedural anxiety management has shown that supportive psychological interventions and patient-centered communication significantly reduce stress and emotional discomfort during medical procedures [16, 22]. The emphasis on psychological follow-up after treatment further reflects the long-term nature of anxiety among medical tourists, who may continue to experience uncertainty after returning to their home countries. Consequently, anxiety management should be conceptualized as a continuous process rather than a single-stage intervention.

The findings also highlighted the substantial role of cultural competence and intercultural communication in reducing patient anxiety. Medical tourists often encounter unfamiliar social norms, healthcare practices, languages, and belief systems, all of which may contribute to emotional insecurity and misunderstandings. The present study found that culturally adaptive healthcare services, respect for patients' values, and multilingual communication support significantly reduce psychological tension and improve treatment experiences. These findings are aligned with studies emphasizing the strategic role of intercultural sensitivity in international healthcare delivery [10, 27]. Likewise, Garad et al. argued that digital and organizational innovations in medical tourism must incorporate cultural adaptability in order to improve patient trust and engagement [6]. This result can be interpreted through the perspective that patients evaluate healthcare quality not only through clinical outcomes but also through the

degree to which healthcare environments acknowledge and respect their cultural identities. In culturally unfamiliar settings, communication failures and perceived insensitivity may increase anxiety and emotional alienation.

Another important dimension identified in the study was cognitive and informational empowerment of patients. The findings indicated that educating patients using understandable language, improving health literacy, and reducing ambiguity regarding treatment outcomes contribute substantially to anxiety reduction. This result is consistent with the literature demonstrating that informational clarity enhances perceived predictability and control among patients [17, 18]. Studies on supplementary video information and educational interventions have similarly shown that patients who receive accessible and detailed treatment information report lower levels of fear and uncertainty [17]. Furthermore, the findings support the argument proposed by Li and Liu regarding the growing influence of informational technologies and artificial intelligence on patient perceptions and emotional responses [28]. Patients who lack sufficient understanding of treatment procedures are more likely to develop anxiety due to uncertainty and fear of negative outcomes. Therefore, healthcare organizations should consider patient education as a strategic anxiety management tool rather than merely an informational process.

The findings regarding management of the physical environment and hospital services also demonstrated that environmental and organizational factors significantly influence anxiety levels among medical tourists. Calm treatment environments, organized admission and discharge procedures, and hygienic healthcare settings were identified as important anxiety-reducing factors. These results align with studies showing that stressful healthcare environments characterized by complexity, noise, or poor organization can intensify emotional distress and negatively affect treatment experiences [19, 21]. Similarly, Lewis et al. emphasized the importance of comprehensive patient-centered care environments in improving psychological well-being among patients [23]. In the context of medical tourism, environmental quality may carry even greater significance because patients are already operating in unfamiliar social and geographic settings. Consequently, the physical and organizational design of healthcare environments functions not only as an operational issue but also as a psychological support mechanism.

The study additionally identified social and family support as a major contributor to anxiety reduction. The findings demonstrated that the presence of companions, emotional support from healthcare staff, and interaction with patients who share similar experiences can significantly alleviate feelings of isolation and emotional vulnerability. These findings are consistent with previous research indicating that social support acts as a protective factor against anxiety and psychological distress [8, 19]. The importance of patient–patient interaction also reflects the psychological value of shared experiences and emotional normalization in stressful healthcare situations. In medical tourism contexts, where patients are often separated from their traditional support networks, emotional companionship and empathetic care become even more critical. This result suggests that healthcare providers should integrate structured support systems into medical tourism services in order to strengthen patients' psychological resilience.

Another key finding of this study was the importance of continuity of tourism–treatment services. The results showed that coordination between healthcare services, accommodation, transportation, administrative procedures, and post-treatment follow-up significantly reduces patient anxiety. These findings support previous research emphasizing the importance of integrated healthcare ecosystems and service continuity in medical tourism [1, 2]. Medical tourists often experience stress not only because of medical treatment itself but also due to logistical complexities such as visa procedures, travel arrangements, accommodation uncertainty, and communication difficulties. Studies by Al-Romeedy et al. and Garad et al. further indicate that digital technologies and integrated

healthcare platforms can improve service coordination and reduce travel-related stress [5, 6]. Therefore, continuity of care and seamless coordination across healthcare and tourism systems represent critical managerial dimensions of patient-centered medical tourism.

The findings of this study also underscore the growing role of technology in anxiety management. Digital communication systems, telemedicine, virtual reality interventions, and AI-supported healthcare interactions emerged indirectly across several dimensions of the identified model. Previous studies have shown that virtual reality technologies can effectively reduce procedural anxiety and enhance patient comfort [20, 25]. At the same time, technological systems may create new forms of anxiety related to depersonalization, trust in AI, or technological uncertainty [26, 28]. This dual role of technology suggests that technological innovation in medical tourism should be accompanied by human-centered communication and emotional support mechanisms. Healthcare organizations that rely exclusively on technological efficiency without considering emotional dimensions may fail to establish therapeutic trust among patients.

Overall, the findings of this study contribute to the literature by presenting a holistic and integrated framework for understanding anxiety management in medical tourism. Unlike previous studies that examined isolated dimensions such as procedural anxiety, travel anxiety, or healthcare quality independently, the present study synthesizes diverse perspectives into a unified conceptual model. The identified framework demonstrates that anxiety management in medical tourism requires simultaneous attention to psychological, communicative, organizational, cultural, technological, and environmental factors. The study therefore extends existing literature on patient experience and healthcare management by emphasizing the interdependence of emotional well-being and healthcare service systems in international treatment contexts.

One limitation of the present study relates to the nature of the meta-synthesis methodology itself. Although the study synthesized findings from a broad range of scientific sources, the analysis depended on the quality, conceptual focus, and methodological diversity of existing studies. In addition, the majority of available studies were conducted within specific regional or clinical contexts, which may limit the generalizability of the proposed model across all medical tourism destinations. Another limitation concerns the reliance on secondary data, as no direct empirical validation of the proposed framework was conducted within real-world healthcare organizations or among international patients.

Future research may focus on empirically testing the proposed anxiety management model across different medical tourism destinations and healthcare systems. Comparative studies examining cultural differences in anxiety perception and coping mechanisms among medical tourists from different countries could provide valuable insights into patient-centered healthcare strategies. Researchers may also investigate the effectiveness of specific interventions such as AI-supported communication systems, virtual reality tools, and digital follow-up platforms in reducing anxiety among international patients. Furthermore, longitudinal studies examining anxiety experiences before, during, and after treatment journeys could enhance understanding of the dynamic nature of psychological adaptation in medical tourism.

From a practical perspective, healthcare organizations and policymakers should recognize anxiety management as a strategic component of medical tourism competitiveness rather than solely a clinical issue. Hospitals and medical tourism agencies should invest in transparent communication systems, multilingual patient education, culturally adaptive services, and integrated psychological support programs. The implementation of coordinated tourism-treatment service systems may reduce logistical stress and improve patient trust and satisfaction. In addition, healthcare providers should develop training programs focused on empathy, intercultural

communication, and patient-centered care in order to strengthen therapeutic relationships and emotional support for international patients.

Authors' Contributions

Authors equally contributed to this article.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

Acknowledgments

Authors thank all participants who participate in this study.

Conflict of Interest

The authors report no conflict of interest.

Funding/Financial Support

According to the authors, this article has no financial support.

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