

INCLUSIVE AND SUSTAINABLE TOURISM. THE CASE OF SPINOCEREBELLAR ATAXIA TYPE 2 IN SMART TOURIST DESTINATIONS

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Abstract:

People with ataxia face substantial challenges in seeking to enjoy leisure and tourism, with significant impacts on their health and quality of life. In this context, this research focuses on assessing the adaptability of Smart Tourist Destinations (STDs) to the specific needs of ataxia patients, recognizing accessibility as a critical component for the sustainability of any tourist destination. Taking the STD of the city of Málaga as a case study, a comprehensive analysis of existing action plans is conducted, complemented by an examination of 5 ataxia patients' cases, inquiries into accommodation search engines and metasearch engines, as well as the identification of training and promotion opportunities for accessibility in the city. Two crucial areas emerge as priorities: training in accessibility and its promotion. This study not only identifies these challenges but also proposes concrete solutions to enhance the tourist destination's competitiveness while significantly contributing to the affected patients' quality of life. Given the complexity and multicausal nature of the study theme, emphasis is placed on the need for further studies to delve into improving the detected deficiency areas.

Keywords: Smart tourist destination, Sustainability, Accessible tourism, Ataxia, Training and promotion of accessibility, Malaga

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1. INTRODUCTION AND LITERATURE REVIEW

European policies aim to increase cohesion and reduce internal asymmetries through welfare policies affecting the integration of people with disabilities (Domínguez et al., 2019). The third Sustainable Development Goal (SDG) in the 2030 agenda emphasizes the "Health and Well-being" of people. Accessible and inclusive tourism ensures that environments, products, and services are equally enjoyable for everyone, including those with disabilities (Alles, 2009; Tite-Cunlata et al., 2021). This improves the quality of life for people with specific needs, including those with Spinocerebellar Ataxia type 2 (SCA2), a disorder affecting coordination, walking, limbs, and speech, making tourism challenging (Ashizawa & Xia, 2016).

Smart Tourist Destinations (STDs) represent advanced management of tourism offers (López de Ávila, & García, 2014; Villalobos et al., 2022). STDs focus on continuous improvement, diagnosing and enhancing sustainability, accessibility, quality of life, and integration (Álvarez-Vidales, 2014; Salessi, 2017). STDs prioritize people as residents, tourists, or decision-makers (Sigalat Signes et al., 2018). Thus, improving the lives of residents, enhancing tourists' experiences, and supporting managers' decisions are crucial (Darcy, 2010; Cardoso, 2020; Santos-Junior et al., 2020; Pencarelli, 2020; Bichler, 2021).

This research investigates the adaptability of Málaga as an STD to the needs of ataxia patients, highlighting the importance of accessibility for sustainable tourism. It aims to improve the quality of life for ataxia patients and enhance the competitiveness of the tourist destination by proposing solutions to identified challenges. Further studies are needed to address the detected deficiencies.

2. TOURISM AND ACCESSIBILITY IN SPAIN

Tourism is vital for Spain, being a top global tourist destination with significant international arrivals and revenue. In 2019, tourism contributed 154,487 million euros, representing 12.4% of the GDP, and generated 2.62 million jobs (INE, 2019; Tourinews, 2020). The sector drives local development, cultural promotion, and economic diversification (Milano, 2018; Ivanov, 2020; Torres Cadena et al., 2019). Despite the COVID-19 pandemic's impact, tourism's role remains crucial for economic recovery and adaptation to new industrial revolutions (Más-Ferrando et al., 2020; Banco de España, 2023).

In parallel, Spain has made significant efforts to promote accessible tourism, supported by comprehensive legislation such as the Spanish Constitution (1978), Law 13/1982, and subsequent laws ensuring equal opportunities and accessibility for people with disabilities. Improvements include accessible infrastructure and transportation, with notable examples like adapted beaches and detailed options on the Official Tourism Portal of Spain.

A bibliometric analysis reveals a growing interest in accessible tourism and ataxia research. Accessible tourism publications increased from over 10,000 in 2015 to nearly 35,000 in 2022, while ataxia-related publications rose from 2,500 in 2018 to 3,400 in 2022 (Dimensions.ai, 2023). Despite this growth, research combining both fields remains scarce.

3. CONCEPTUAL FRAMEWORK OF ACCESSIBILITY AND ATAXIA

Ataxia is defined as an alteration of movement coordination, typically caused by cerebellar dysfunction, with varied underlying causes and diverse treatment options (Ashizawa & Xia, 2016; Hong, 2012; Becerra, 2022). Unfortunately, there are currently no effective treatments available to combat the disease, and eventually, individuals may pass away due to their inability to perform critical biological functions such as feeding. However, there are therapeutic strategies such as physiotherapy and the use of certain medications that can improve the quality of life of those suffering from the disease (Becerra, 2022).

Despite progress in clinical, epidemiological, molecular, and neurophysiological research in recent years, psychological disorders associated with the diagnosis and progression of the disease have received less attention. As a result, many cases lack a timely diagnosis that would contribute to developing a personalized therapeutic intervention program for each disorder, improving patient management of their condition and their incorporation into an effective physical and psychological rehabilitation program (Reynaldo et al., 2002).

When addressing a group experiencing the previously analyzed difficulties, the concept of accessibility inevitably needs to be detailed. Accessibility acquires a broader meaning in terms of universality, which is based on the principle of facilitating the use of products and services by all users, involving them in the design and evaluation process (Marcos & González, 2003). From the standpoint of universality, it is possible to meet conditions of safety, autonomy, and comfort, so that all people, regardless of their condition, can use buildings, urban environments, communication and information technologies, and other services (Camacho et al., 2015).

Darcy (2006) emphasizes that accessible tourism should ensure people with disabilities and the elderly can access tourism products, services, and environments independently, on equal terms, and with dignity. Santos (2009) suggests that a product is accessible when it is available and usable by all visitors, a notion shared by the Economic and Social Commission for Asia and the Pacific (2009). The United Nations (2010) defines disability as an evolving term and states that accessibility ensures full and effective participation in society on an equal basis. Domínguez-Vila et al. (2011) argue that all people, regardless of individual characteristics, should have the opportunity to participate in tourist activities. Martos (2012) links accessibility with social awareness, challenging cities to adapt to all audiences.

The Catalan Tourism Agency (2013) reinforces tourism as a fundamental social right, related to quality of life. Ferri et al. (2013) and Millán (2010) highlight the benefits of accessible tourism, including improved well-being, perceived health, personal development, and social relationships. Temeljotov (2020) advocates for equal opportunities for all tourists, emphasizing flexibility and adaptability to individual needs. Jurado-Almonte (2014) notes that improved accessibility has clear positive repercussions, providing an ideal response to an emerging and growing tourist market segment. Tite-Cunalata et al. (2021) trace accessible tourism's origins to 1980, emphasizing its development through the removal of barriers and social integration for people with disabilities.

4. SMART TOURIST DESTINATIONS (STDS) AND THE CASE OF MALAGA

Smart Tourist Destinations (STDs) are innovative, technology-driven destinations that ensure sustainable development, accessibility, and enhanced visitor experiences while improving residents' quality of life (Segittur, 2023; Gonzalez, 2018; Camison & Sanchez, 2020). Spain, a pioneer in STD legislation, has made significant advancements, evidenced by the creation of a white paper and various studies linking STDs with accessibility (Fernandez et al., 2017; Porto & Rucci, 2019; Muñoz de Dios, 2017; Grisheva Georgieva, 2019).

Table 1: Accommodation places in the city of Malaga.

	Hotel Establishments	Tourist Apartments	Housing for Tourist Purposes	Total
May 2023	15.598	6.738	48.663	0.999

Source: https://www.costadelsolmalaga.org/bigdata/com1_tc-365554/concentracion-en-el-territorio 2023.

Malaga, a coastal city in Andalusia, Spain, is known for its mild climate, cultural significance, and tourism. The city has implemented a Strategic Tourism Plan for 2021-2024, emphasizing memorable experiences, civic coexistence, and sustainable development (Ayuntamiento de Malaga, 2021). Malaga's tourism sector has a significant economic impact, with 9,950 establishments and 70,999 places available for visitors (Ayuntamiento de Malaga, 2023), distributed as shown in Table 1.

Table 2: Situation analysis of the Málaga destination.

Levers	Brakes
<ul style="list-style-type: none"> • Málaga capital is a destination with extensive tourist resources. • Existence of multiple actions and resources aimed at attracting and engaging visitors. • Intensity and proactivity in the action of private sector agents. • Implementation of a Destination Information System. 	<ul style="list-style-type: none"> • Improvable culture of programming and monitoring of activities with indicators. • Low projection of the Destination Malaga brand. • Little use of digitisation. • The Management Entity carries out its activities without a specific management focus. • Deficits in the accessibility of the destination.
Accelerators	Risks
<ul style="list-style-type: none"> • Standardization of the tourism chain. • Increased interest and demand for multi-segment destinations with a broad complementary offer. • Increased visitor awareness and demand for quality destinations. • Digitalization and analysis of the visitor as a buyer/persona. 	<ul style="list-style-type: none"> • Continuity of the situation caused by COVID-19. • Drop in national and international demand due to crisis. • Competitive offers from alternative destinations. • Changes in the preferences of regular visitors.

Source: Strategic Plan Málaga 2021-2024 (2022; p. 36).

It is relevant to consider, as a complementary and more qualitative approach, the results of the Málaga Strategic Plan 2021-2024, where a diagnosis of the destination is performed. For this purpose, four groups of forces are identified with the following characteristics (Table 2). Levers are considered to be those assets that facilitate progress, whereas brakes are characteristics that hinder advancement. On the other hand, risks are issues that could impede or complicate progress, and accelerators are aspects that could catalyse or facilitate progress.

Malaga has achieved milestones in accessibility, with recognitions such as the Queen Sofia Prize for Universal Accessibility and the European Capital of Smart Tourism 2020. However, the city still faces challenges in promoting and enhancing its accessible tourism offerings.

5. RESEARCH OBJECTIVES AND HYPOTHESES

This research aims to analyze the specific needs of SCA2 patients, compare them with STD accessibility parameters, identify and promote suitable tourism products in Malaga, assess accessible accommodation, and evaluate human resources training strategies. The hypotheses include:

H1: People with SCA2 lack an adequate inclusive and sustainable tourism offer in ITDs.

H2: Malaga has suitable tourism products for SCA2 patients, but these options are insufficiently promoted.

H3: Accommodation in Malaga is deficient in terms of accessibility requirements and compliance with regulations.

H4: Strategic planning for improving accessibility insufficiently considers human resources training.

6. MATERIALS AND METHODS

In order to respond to the problem posed by investigating the specific needs and difficulties of patients with ataxia in relation to the enjoyment of leisure and tourism, a series of objectives are set out below:

- To analyse the specific needs of patients with Spinocerebellar Ataxia type 2 (SCA2) that are relevant for the development of tourism products.
- To compare the needs of ACS2 patients with the parameters and indicators of ITD accessibility set out in the regulations.
- Identify the tourism products of the Malaga destination that are suitable for SCA2 patients and their specific promotion.
- Assess the availability of accessible hotel accommodation within the Malaga destination against existing regulations and the needs of SCA2 patients.
- Evaluate human resources training strategies on accessibility in ITDs.

Accordingly, to address the first objective, a document-based approach is proposed (analysing previous research) along with a case analysis (gathering primary data from

ataxia patients). In this regard, a self-administered questionnaire is developed to evaluate the stance of ataxia patients concerning their enjoyment of tourist activities, the difficulties involved, and their patterns of information searching and acquisition of tourism products.

Pertaining to the second objective, a documentary exploration is suggested, analysing and contrasting the strategic and tourist accessibility plans of the Málaga destination, following a comparative criterion between the plans (identifying common and divergent points and highlighting the relative importance of accessibility actions compared to the other axes of the STDs).

The third objective entails an experimental approach, simulating searches on different hotel platforms, as well as the execution of the mystery shopper technique, which allows for an assessment of the real accommodation opportunities in the city of Málaga for ataxia patients in particular and those with mobility issues in general.

Finally, exploring training opportunities involves a documentary analysis and inquiry on specialised websites.

7. RESULTS

Demand analysis

If we consider preceding research, according to the study "Economic impact and travel patterns of accessible tourism in Europe," over half of the European Union's population with disabilities has reported travelling at least once during the past twelve months; for the senior segment, this percentage is estimated at 40%, with a growing trend towards international travel (Ayuntamiento de Malaga, 2023, p. 21).

Regarding national demand, the Observatory of Universal Accessibility of Tourism in Spain (Hernandez-Galán, 2021) publishes a report that collects behaviours, preferences, and obstacles of tourists with specific needs. It reveals that 60% of respondents with special needs choose Spain as their holiday destination, and 36% select between this country and international destinations indiscriminately. Within the national borders, 41% of the people opted for the Autonomous Community of Andalusia and, in second place, the Valencian Community, chosen by 24% of participants.

As for motivations, the study identifies that sun and beach products (56%), and artistic-cultural offerings (46%) are the most attractive for people with special needs.

In terms of travel organization, 7 out of 10 tourists with special needs choose the internet, and to a much lesser extent, travel agencies (both physical and online). A nearly unanimous aspect within this group is the significance of comments, opinions, and ratings from other tourists when making a travel-related decision. This aligns with previous studies that suggest "in general, it can be accepted that ICTs enhance accessibility to information and services, especially those related to tourism." (Sánchez-Ruiz, Loarte Tene & Caisachana Torres, 2020; p. 227)

Furthermore, the study explores the typology of chosen accommodation, identifying that 66% have a preference for a hotel, with private dwellings and the homes of relatives and friends as the second option.

To obtain primary data, contact is made with FEDAES (Federation of Ataxias of Spain) to connect with cases of ataxia patients and their tourism experiences.

For this purpose, there are 5 case studies, which, while they do not allow for generalizable conclusions, represent an approach to the concrete reality of those who, despite having mobility difficulties or specific needs, decide to enjoy tourism as a leisure and recreation activity.

For this, self-administered questionnaires with profile questions (age, age at diagnosis, and sex); and questions relating to the enjoyment and evaluation of tourism were sent out.

Consequently, and as stated earlier, the analysis of 5 cases does not allow generalisations, but it does allow an approach to the personal barriers that each ataxia patient suffers when it comes to enjoying tourism. It has become evident that the experiences are varied, as are the limitations of the people, which is why it is proposed to advance in a more complex approach to accessibility, considering that people and their needs cannot be characterised in just a few categories.

Analysis of accessible accommodation in Malaga

To analyse the situation of accessible accommodations in the city of Málaga, the starting point is the range of accommodations advertised on the platform booking.com. The rationale behind this methodological decision is that within the ranking of online platforms for booking hotels or tourist apartments most used in Spain, Hortec (n.d.) identifies that within the travel agency market, the Booking.com group is the most influential actor, with a market share of 71.2%, compared to 68.4% in 2019.

Specifically, in 2022 the data website Statista places the aforementioned platform in the first position, as 72% of people have used it. Thus, "In 2022, the most used tourist accommodation booking website in Spain was Booking.com. According to the latest data from Statista's Global Consumer Survey, almost three-quarters of respondents made some hotel or tourist apartment reservation through the portal" (Statista, 2022). The analysis is complemented by a search on the Google.com metasearch engine, since Hotel Ads by Google is the market leader in metasearch (73%), followed by TripAdvisor (57%) and Trivago (44%) (Hosteltur, 2022).

On booking.com, a search is conducted with broad criteria:

Months of September / October / November.

Duration of stay: one week (to avoid the restriction of minimum stay).

Passengers: 2 adults.

The search shows the existence of 4,108 establishments, of which 94 are hotels, 57 are guest houses or B&Bs, and 21 are hostels, making a total of 172 (excluding tourist apartments). If from the 4,108 the filter "adapted for people with reduced mobility" is selected, it offers 255 alternatives. Similarly, of the 172 available hotels/guesthouses, the number is reduced to 65 options.

Regarding the same procedure on the Hotel Ads by Google platform, a general search for accommodation in the city of Málaga (one week in November for two people) yields

420 options. With a base of 420 accommodations, applying the "accessible for wheelchairs" filter allows visualising 67 alternatives (15.95%).

Regarding the specialised website, *viajerosensilla.com*, the website presents itself as the "most complete tourist guide on the market for People with Functional Diversity, born with the purpose of bringing any type of accommodation that complies with accessibility standards for people with any type of physical disability closer to the public.

Always referring to those people with a high degree of functional diversity, wheelchair users" (*Viajeros en Silla*, n.d.). Within the accommodation section, a filter by the destination Málaga yields 16 options, of which 10 belong to the city of Málaga and 6 to neighbouring cities (Marbella, Torremolinos, Mijas, among others). With the preliminary searches on the three portals (*Booking.com*, *Google Metasearch*, and *Viajeros en silla*), a spreadsheet is created with the accessible hotels of the city of Málaga, indicating their address, website, and contact email. With these hotels, the research technique of "mystery shopper" is applied, which consists of "a participant observation method that many companies and public organisations use to measure the quality of their service delivery" (Wilson, 2001). Its importance as a research method is reflected in the figures provided by the Mystery Shopping Professional Association, which set global spending at 2 billion dollars, with the United States representing half of the market and Europe approximately 500 million dollars, also estimating that there are 1.5 million mystery shoppers worldwide.

Regarding sectors, it prevails in finance, telecommunications, retail, leisure/travel, hospitality, and car dealerships (Van der Wiele et al., 2005). For this, an email address, company logo, and a text requesting availability for a group with special mobility needs were generated. In total, 68 emails were sent (66 valid as two of them indicate non-existent addresses), receiving 41 responses, i.e., a 62% response rate from valid emails sent. In general, the treatment and predisposition of the hotels have been satisfactory, showing interest in the group. Only one establishment indicated that the group is not of interest: "it is not the atmosphere we want to create" (personal communication by email, 2023).

Regarding the availability of accessible rooms, Table 4 presents a summary of the information received.

In conclusion, consistent results can be observed between the search on *Booking.com* and the *Google metasearch* engine. In both cases, around 15% of hotel establishments indicate that they have at least one room adapted for travellers using wheelchairs.

It should be clarified that while on *Booking.com* about 38% of the establishments are shown as "accessible", the subsequent filter for wheelchair-adapted rooms yields 14%, and those with a shower tray account for 12%.

However, a subsequent analysis of the effective availability shows that after making 66 inquiries to hotels (advertised as accessible), a total of 141 places (distributed across 67 rooms) were reached. Consequently, when related to the available hotel places in the city of Málaga in 2023, this constitutes a share of 0.9%, a figure that is well below what is established in local provisions and at the level of the Autonomous Community. Therefore, this represents a significant shortcoming to consider.

Accessibility training in the city of Malaga

Awareness plays a crucial role in introducing the significance of Accessible Tourism into society and subsequently implementing the planned strategies with greater consciousness among stakeholders (UNWTO, 2015; p. 29). Investigating training strategies is essential since the treatment received by tourists, especially those with specific needs, is a priority criterion for choice.

The UNWTO (2015; p. 29) in its "Manual on Accessible Tourism" states it is vital, across various sectors, to ensure staff are "aware and trained to provide services for tourists with different needs", in order to eliminate attitudinal barriers that negatively impact the tourism experience.

The situation in Málaga city is reported in the Accessible Tourism Plan (Movisenior, 2021; p. 47), identifying that "awareness and training activities in accessibility represent a vulnerability for the destination", and similarly, the Strategic Tourism Plan of Málaga acknowledges the need "to progress in the training field"; for example, "on innovation and accessibility directed at the tourism sector". Additionally, it warns that the Municipal Training Center (CMF), the entity centralizing municipal training, does not consider accessibility as part of its educational offer.

Specifically, as of August 2023, neither the Municipal Training Center nor the Municipal Institute for Training and Employment (IMFE) offer courses related to accessibility. In the first case, there were only 3 courses available. As for the second institution, it offers various options for those seeking training: professional training for employment (with 8 active courses between 75 and 150 hours); the employment and training program (with 3 active projects); and online training (offering 33 courses).

In addition, the proposals for solutions available in the Directory of Technological Solutions for Smart Tourist Destinations by Segittur (n.d.) have been analyzed. This directory "compiles a range of technological solutions (products/services) available on the national market or with a branch in Spain with solutions for the Tourism sector, and more specifically for all the activities that a public manager can develop within a Smart Tourist Destination". Specifically, for the classification of solutions, it has been based on the 5 axes, allowing the interested destination to filter by governance, innovation, technology, accessibility, and sustainability solutions.

In the specific case, they have been filtered to display suppliers related to accessibility. Thus, it is noted that 29 solutions are available, of which only one considers training as a proposed activity.

Given the significant gap detected in this area, a search for accessibility training options available on the web was conducted.

Among the results obtained, notable are the Master offered by the University of Jaén and the ONCE Foundation; the European Institute of Inclusive Tourism (for the number of options available, albeit short duration each); the course offered by Innovtur (although it only considers management), and the option of Equalitas Accessibility offering a specific course on dealing with people with disabilities.

Promoting accessibility in the city of Malaga

Marketing for clients with disabilities or access needs must demonstrate the same quality-price balance, but must also address an additional and decisive question posed by people with disabilities when choosing a tourist destination: "Is this trip really accessible for me?" (UNWTO, 2015; p. 57).

The promotion of accessibility is an essential element to ensure that the effort of planning, investment, and management of accessibility in a destination is known by the target audience. In this context, "the goal of marketing this segment is to attract customers and offer those experiences" (UNWTO, 2015; p. 57).

Poor promotion results in a double detriment: on one hand, it affects the profitability and return on investment for destinations and tourism businesses, and on the other, tourists seeking accessible places struggle to find them on the web or in advertising, leading to uncertainty and frustration due to the lack of options to enjoy leisure and tourism.

In this regard, a significant shortcoming is detected in the city of Málaga, as it currently has "resources and services of notable relevance that are suitable for people with accessibility requirements". However, both a thorough diagnosis of accessibility and its coordinated offering to the target audience are necessary since "a database of tourist resources including accessibility criteria, obtained from own websites and through telephone enquiries, is being compiled" and on the other hand, "the gathering of this information is neither systematised nor centralised, with several initiatives and various agents involved" (Ayuntamiento de Malaga, 2023; p. 56).

Regarding the official tourism website: www.visitamalaga.eu, it is worth noting that it contains pertinent and updated information, being an important resource when initiating a diagnosis. The website lacks references to the accessibility of attractions or tourist products: "the portal does not have a specific section dedicated to it, nor does it include specific accessibility features, except for the International Symbol of Accessibility -ISA- to indicate the existence of 'disabled access', an inappropriate term" (Ayuntamiento de Malaga, 2023; p. 57).

Additionally, an online guide to accessible tourism in Málaga 2021, published by Movisenior (2021), is available, detailing the main monuments, emblematic streets, and beaches, with the necessary access and mobility guidelines.

In conclusion, as stated in the Tourism Accessibility Plan: "it is considered a priority to consolidate knowledge about accessible offerings and to group the dispersion of initiatives and information" (Ayuntamiento de Malaga, 2023; p. 62).

8. DISCUSSIONS

The main findings of this study underscore the significant gap in research that intersects tourism and ataxia, particularly within the framework of Smart Tourist Destinations (STDs). Our analysis focused on Malaga, a city recognized for its accessibility efforts and international accolades, yet still facing substantial deficiencies in both the promotion and availability of accessible infrastructures.

The significance of these findings lies in the urgent need to improve both the accessibility and the promotion of tourism products tailored specifically for ataxia

patients. Enhancing accessibility in tourism not only improves the quality of life for individuals with disabilities but also boosts the destination's competitiveness by attracting a more diverse range of visitors.

These findings align with previous research that highlights the critical role of accessibility in tourism. However, our study adds a unique dimension by focusing on a specific medical condition, Spinocerebellar Ataxia type 2 (SCA2), and evaluating a specific destination, Malaga. This provides a more granular and actionable insight compared to broader studies on accessible tourism.

Despite these contributions, our study has limitations. The availability of specific data on accessible accommodations is limited, and there is a notable absence of a consolidated system for promoting accessible tourist experiences. Additionally, our sample size of ataxia patients is relatively small, which may limit the generalizability of our findings.

An unexpected result from our study was the low proportion of accessible hotel beds (0.9%), which falls significantly below regulatory standards. This discrepancy highlights a critical gap between the theoretical frameworks of accessibility regulations and their practical implementation in the tourism industry.

To address these issues, future research should expand the patient sample size and conduct comparative studies across other smart tourist destinations to identify best practices and areas for improvement. Moreover, there is a need to delve deeper into the training opportunities for human resources in the tourism sector regarding accessibility. Developing integrated systems to promote accessible tourism experiences is also crucial.

Furthermore, future research should investigate the economic impacts of improved accessibility on tourism and assess the cost-effectiveness of various accessibility interventions. This would provide a more comprehensive understanding of the benefits and challenges associated with making tourism more inclusive.

9. CONCLUSIONS

Restating our initial research hypothesis, this study explored the adaptation of Smart Tourist Destinations to meet the specific needs of ataxia patients, with a case study focused on Malaga. Our findings reveal that while Malaga has numerous accessible and adapted options, the promotion of these facilities is inadequate, and the overall accessible infrastructure is lacking.

The study's primary contributions to the existing literature include identifying specific gaps in tourism accessibility for individuals with Spinocerebellar Ataxia type 2 (SCA2) and proposing concrete solutions to enhance the destination's competitiveness and improve the quality of life for affected patients. Our findings emphasize the importance of a more inclusive approach to tourism that caters to the needs of all visitors.

Our study also highlights the need for better data collection and management regarding accessibility features in tourist accommodations. The identified gap between the availability of accessible accommodations and the actual regulatory requirements suggests that more stringent enforcement and regular audits are necessary.

The limitations of this study include the small sample size of ataxia patients and the limited scope of accessible accommodations data. Addressing these limitations in future research will be essential to provide a more comprehensive and representative understanding of the issues at hand.

Future research directions should include expanding the sample size of patients, conducting comparative studies with other destinations, and exploring in-depth training programs for tourism sector personnel on accessibility. Additionally, developing a centralized and integrated system for promoting accessible tourism experiences will be crucial in addressing the gaps identified in this study.

In summary, this study underscores the critical need for improving accessibility and promotion in smart tourist destinations to cater to the specific needs of ataxia patients. By doing so, we not only enhance the quality of life for these individuals but also contribute significantly to the field of accessible and sustainable tourism, setting a precedent for other destinations to follow.

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