

THE POTENTIAL OF REHABILITATION PRIVATE CENTERS IN BELGRADE AND THEIR ROLE IN THE DEVELOPMENT OF MEDICAL TOURISM

Marija Trajkov¹, Marija Najdić², Milan Ilić¹, Danijela Pecarski¹

¹Academy of Applied Studies Belgrade, The College of Health Sciences, Serbia

²Academy of Applied Studies Belgrade, The College of Tourism, Serbia

Abstract: *The main goal of the paper is to explore the potential of rehabilitation private centers in Belgrade and their significant role in the development of medical tourism in Serbia. The paper investigates the growing global trend of medical tourism, with a particular focus on rehabilitation services, which attract international patients seeking specialized treatments and recovery programs. It examines the strengths of Belgrade rehabilitation centers, including advanced medical technologies, highly trained professionals, and tailored treatment options that meet the needs of diverse patient demographics. By analyzing the infrastructure, accessibility, and quality of care offered, the study highlights the opportunities for Belgrade to position itself as a prominent medical tourism destination. Furthermore, the economic indicator and identification of key challenges and strategies for increasing the competitiveness of rehabilitation centers on the international market of medical tourism are discussed.*

Keywords: *rehabilitation, private sector, health tourism, physical therapy, post-rehabilitation*

INTRODUCTION

In addition to wellness and spa tourism, health tourism also includes medical tourism, which refers to tourists traveling for treatments that may be therapeutic or surgical (Rabotić, 2012). These treatments can include plastic surgeries, hair transplants, dental and orthopedic interventions, as well as treatments related to conception and pregnancy maintenance.

Based on the reasons for using medical services and accompanying offerings, medical tourists can be divided into four categories: 1) individuals who sustain injuries or develop health problems during their stay; 2) people who visit a country primarily for medical treatment or who decide to use medical services in a destination after visiting it; 3) individuals who travel for tourism while receiving medical treatment; and 4) individuals who seek medical treatment unrelated to tourism (Zhong, 2021).

According to the Medical Tourism Association, over 14 million people travel abroad annually for medical treatments to destinations such as Thailand (with over one million visitors), Mexico, Singapore, India, Brazil, Turkey, and Taiwan. In terms of price and cost analysis, medical tourism customers can save between 25-75%, depending on the type of medical service and accompanying procedures (Statistics and Data of The Global Market of Medical Tourism). The main factors driving the growth of medical tourism are advances in the healthcare industry, with the introduction of innovative medical devices enabling less invasive and non-invasive surgical procedures. Contrary to the common belief that medical tourism is practiced mostly by individuals with lower incomes, the majority of patients come from high-income countries such as the USA, Canada, and the UK.

Patients Beyond Borders, a consultancy group for medical tourism, estimated the market size for medical tourism in 2023 to be between \$63-88 billion USD, based on 21-22 million international patients worldwide, spending an average of \$3,510 per visit, including medical costs, cross-border and local transportation, inpatient stays, and accommodations (around 1.8 million Americans traveled abroad for medical care in 2023, Patients Beyond Borders | Media).

Predictions suggest that the global medical tourism market will reach \$137.71 billion by 2032, showing a CAGR of 21.4% from 2024-2032 (Medical Tourism Market Size & Growth | Global Trends).

Tourism development in the Republic of Serbia began to grow after World War II, mainly due to business travel and health tourism. Serbia has significant potential in the health/wellness segment, with 50 spa and

climatic resorts and over 1,000 springs, as well as a wealth of natural mineral gases and therapeutic muds (Strategija Razvoja turizma Republike Srbije za period od 2016. do 2025. godine). According to the Tourism Development Strategy of the Republic of Serbia (2016-2025), spa & wellness in health resorts and medical tourism are recognized as important tourism products for the development of tourism (after cities, events, and mountain tourism, but ahead of thematic routes, rural, nautical, MICE tourism, cultural heritage, special interest, and transit tourism). To foster the development of tourism products, Serbia encourages foreign investment in health tourism, through the construction of new facilities, ski resorts, gondolas, hotels, marinas, new resorts, spa and wellness centers, and other infrastructure. Moreover, through foreign policy measures such as visa liberalization and visa facilitation for certain countries, as well as simplified border visa procedures (e.g., for Turkey and China), along with the growth and development of air traffic (strategic agreement between Etihad and Air Serbia), international arrivals from key tourist destinations (Middle East, Asia, and the US) are being encouraged.

As a result, the preconditions for the development of medical tourism in Serbia have been established, particularly in spas and larger cities, i.e., places with developed infrastructure, quality medical service centers, and accommodation facilities.

In addition to the economic aspects of developing medical tourism, the need for the development of rehabilitation centers is also supported by the results of the 2019 Serbian National Health Survey, which showed that under the “Lifestyle and Health” category, one in three residents aged 15 and older walks continuously for less than half an hour a day. Daily walking habits are more common among men than women. Additionally, two-fifths of the population (41.1%) tends to sit or stand while performing tasks (whether paid or unpaid work, housework, studying, etc.), with a significantly higher proportion of women (45.6%) ((European Health Interview Survey – EHIS).

In addition to rehabilitation centers, a significant role in providing rehabilitation services belongs to the private sector. In Serbia, there are over 100 registered outpatient clinics/physiotherapy and rehabilitation practices, which present a significant potential for the development of health tourism, with a similar number of such facilities in Belgrade. Therefore, the goal of this paper is to evaluate the private rehabilitation centers in Belgrade. The aim is to assess each physiotherapy and rehabilitation clinic based on the indicator of the services they offer and their economic aspect.

METHODOLOGY

The best way to find private physiotherapy and rehabilitation clinics is through internet searches using key terms. However, to include only registered private clinics, official data sources were used. Two main data sources were utilized: the Agency for Business Registers and the list of clinics under General Insurance Serbia, specifically for Belgrade, both available online. After targeted searches, 61 clinics were identified from the Agency for Business Registers and 37 from the General Insurance Serbia list, all offering physiotherapy and rehabilitation services in Belgrade. In the next step, each clinic was individually researched, considering several indicators: 1) whether the clinic has a website; 2) if the website lists the types of rehabilitation services offered; 3) if a specific medical issue or specialization is highlighted; and 4) whether a price list for services is provided.

RESULTS

Table 1 presents the availability of information on the internet regarding the description of rehabilitation services, price lists, and the team providing rehabilitation services. Of the total number of registered private clinics, over 66% have a website. The majority of clinics (92.42%) provide a description of the services offered and the team members with biographies (77.27%). However, more than half of the clinics do not have a price list on their website.

Table 1: Clinics for physical medicine and rehabilitation in Belgrade

Number of Clinics	Availability of Information on the Internet							
	Website		Services		Price		Team	
98	Number	%	Number	%	Number	%	Number	%
		66	67.34	61	92.42	27	40.90	51

Table 2 shows the types of rehabilitation services provided and their average prices. The most common rehabilitation services offered electrotherapy (iontophoresis, diadynamic current therapy, interferential current therapy, neuromuscular and muscular electrical stimulation, TENS, infrared therapy, laser therapy, ultrasound therapy, magnetotherapy, thermotherapy, cryotherapy), with 87.87% of clinics providing these. Additionally, most clinics are equipped with innovative electrotherapy devices (Radiofrequency Therapy) (57.57%) and shockwave therapy devices (46.96%). Kinesiotherapy (therapeutic exercises) and massage (63.63%) is also highly represented. Less common services include manual therapy services (30.30%). Other procedures such as dry needling, spinal traction, and specific kinesiotherapy techniques (e.g., PNF, DNS, Shrot, Spiral Stabilization) are less frequently offered. A smaller number (25.75%) of clinics offer individual and group training in addition to kinesiotherapy. The least common services include traditional treatments like acupuncture, moxibustion, hijama, Ayurveda, etc., and only a few clinics provide sauna and hydrotherapy treatments. Robotics is the least represented, available in only 3 clinics (4.54%). Invasive physical therapy (such as intramuscular injections, PRP method, EPTE therapy) is offered by about 10% of private clinics. In addition to the indicators of the most common rehabilitation procedures, Table 2 also shows the average prices for individual services.

Table 2: Descriptive Statistics for the Indicator of Types of Rehabilitations Services and Price of Services

Services	Number of Clinics	%	Price** (RSD)	Services	Number of Clinics	%	Price* (RSD)
Electrotherapy*	58	87.87	1000	Ergon	8	12.12	2500
Radiofrequency Therapy	38	57.57	3000	Invasive Physical Therapy	7	10.60	/
Shockwave therapy	31	46.96	3000	Kinesiotherapy	58	87.87	/
Dry needling	14	21.21	2000	DNS	6	9.09	3500
Pressotherapy	17	25.75	1500	Spiral Stabilization	6	9.09	3500
Sauna	4	6.06	/	PNF	8	12.12	/
Spinal Traction Decompression	17	25.75	2000	Authorized Exercises Schroth	7	10.60	3000
Robotics	3	4.54	/	Acupuncture	10	15.15	3000
CP Motion System	6	9.09	/	Traditional Techniques	3	4.54	/
Massage	42	63.63	3500	Individual and Group Training	17	25.75	/
Lymphatic Drainage	13	19.69	2500	Underwater Massage	4	6.06	1500
Mobilization Techniques	20	30.30	2000	Kinesio Taping	29	49.93	1500

*Electrotherapy - iontophoresis, diadynamic current therapy, interferential current therapy, neuromuscular and muscular electrical stimulation, TENS, infrared therapy, laser therapy, ultrasound therapy, magnetotherapy, thermotherapy, cryotherapy, etc.

**Service prices are for individual therapies

In addition to the description of the rehabilitation services they provide, some clinics specialize in some of the common conditions. Table 3 shows the indicators of the problems that the clinic emphasized on its website that it mostly deals with.

Table 3: Descriptive statistics for the problem indicator

Most Frequently Treated Conditions	Number	%
Neuromuscular Dysfunctions	30	45.45
Musculoskeletal Dysfunctions	30	45.45
Rheumatic Diseases	28	42.42
Neurological Diseases	22	33.33
Sports Injuries	13	19.69
Postural Deformities	21	31.81
Making Insoles	6	9.09
Women's Health	4	6.06
Pediatric Population	21	31.81
Migraines	4	6.06

The largest percentage of clinics on the Internet page points out that they deal with the problem of neuromuscular and musculoskeletal dysfunctions as well as rheumatological diseases (45.45%). In addition, neurological diseases as well as postural deformities are evident in a third of outpatient clinics. The recovery of athletes (19.69%) is dealt with by a smaller number of clinics. Nine percent are engaged in making insoles. Women's problems and migraines are the least represented (6.06%).

DISCUSSION

The rehabilitation sector of medical tourism is crucial for the development of health tourism in every country. The potential for growth in health tourism is reflected in the diversity of offerings, economic aspects, quality of healthcare services, reputation of doctors, as well as the safety, image, culture, and natural resources of the destination. A significant number of individuals with health problems seek medical assistance across national borders. The primary factor contributing to the expansion of rehabilitation tourism is its ability to offer rehabilitation treatments that the individual cannot access in their home country. According to the Medical Tourism Association, the European region is home to countries specializing mainly in the treatment of cancer, cardiology, and orthopedic diseases (Vovk et al., 2021).

For the medical tourism industry to develop, it is necessary to create conditions that will, at the very least, meet or even exceed the expectations of tourists (Eslami et al., 2018). Of course, this is primarily related to the economic situation of a country, but also to the appropriate regulatory framework in the labor market (Klapkiv et al., 2016). Upon analyzing the data, it becomes apparent that Belgrade, as the capital of Serbia, boasts numerous private clinics specializing in physical medicine and rehabilitation. Many of these clinics have showcased their rehabilitation services and teams on their websites, making them visible and recognizable not only in neighboring countries but also across the entire European region. These clinics offer electrotherapy such as muscular electrical stimulation, TENS, magnetotherapy, ultrasound therapy, etc., as well as innovative technologies, including radiofrequency therapy and shockwave therapy, indicating that this field of rehabilitation is developing in parallel with the advancements in other countries of the region.

Additionally, state-of-the-art neurorehabilitation services (e.g., robots) are available. Kinesiotherapy, along with specific therapeutic methods, are integral components of nearly all rehabilitation services. There is also a growing trend in functional training, including both individual and group exercise programs, which suggests the development of post-rehabilitation services. Manual therapy, including massage and mobilization techniques, is an important part of orthopedic patient recovery and is represented in most clinics. Although less widespread, traditional medicine techniques, such as acupuncture, acupressure, cupping, and similar therapies, are also present.

In comparison to other countries, when it comes to private clinics specializing in physical medicine and rehabilitation, most services are focused on medical treatment, with very few dedicated to spa and wellness services (Luka et al., 2012). This is particularly significant when selecting service packages. In some countries, the service package may include both medical, as well as spa and wellness services, sometimes in equal proportions.

In addition to the variety of rehabilitation services, the quality of the service delivery is also crucial for the development of medical tourism, and this largely depends on the expertise of the staff. The majority of clinics included in the study have introduced their team members of their websites. A review shows that in most cases, services are provided by certified physiotherapists with a three-year educational background and additional training in manual therapy, osteopathy, specific kinesiotherapy methods, and electrotherapy. A significantly smaller number of physiotherapists have completed Master's studies. Most clinics have doctors on their teams, specializing in physical medicine and rehabilitation, orthopedics, and traditional medicine. Some clinics also employ trainers.

For the development of medical tourism, along with the diversity of services and professional expertise, the economic aspect is sometimes decisive in choosing a destination. One of the main advantages of Serbian medicine is the cost-effectiveness of therapies. Compared to other countries in the European region, the prices of rehabilitation services are considerably lower.

CONCLUSION

The analysis of private rehabilitation clinics in Belgrade highlights their potential in the development of medical tourism in Serbia, and service offerings reveals several key findings. While the majority of clinics maintain a website and provide detailed descriptions of their services and team members, many do not disclose pricing information, limiting transparency for potential patients. Electrotherapy is the most commonly offered rehabilitation service, with a significant portion of clinics also incorporating advanced technologies such as radiofrequency therapy and shockwave therapy. Kinesiotherapy and massage are well-represented, whereas manual therapy and specialized techniques remain less prevalent. Traditional treatments and hydrotherapy are offered by only a small number of clinics, and robotic rehabilitation is particularly rare. Regarding the conditions addressed, most clinics emphasize neuromuscular and musculoskeletal dysfunctions, rheumatological diseases, and postural deformities. However, specialized services for athletes, custom insoles, and women's health issues are less frequently highlighted. These findings suggest that while rehabilitation clinics provide a wide range of services, there is an uneven distribution of advanced and specialized therapies, which may influence patients' accessibility to comprehensive rehabilitation care. By leveraging its strengths, Belgrade has the opportunity to establish itself as a prominent destination for medical tourism, attracting patients seeking high-quality rehabilitation services.

REFERENCES

1. Eslami, S., Khalifah, Z., Mardani, A., Streimikiene, D. (2018). Impact of Non-economic Factors on Residents' Support for Sustainable Tourism Development in Langkawi Island, Malaysia. *Economics and Sociology, 11*, 181–197.
2. European Health Interview Survey – EHIS. <https://ec.europa.eu/eurostat/web/microdata/european-health-interview-survey>
3. Klapkiv, Y. M. (2016). Strategy of institutional development in the market of insurance. *Scientific Bulletin of Polissia, 4*, 132–136.
4. Luka, M. F., & Muižnieks, A. (2012). *Rehabilitation centers and their role in medical tourism development in latvia*. 3rd International Interdisciplinary Scientific Conference SOCIETY. HEALTH. WELFARE –1 st Congress of Rehabilitation Doctors of Latvia. SHS Web of Conferences Volume 2.
5. Medical Tourism Market Size & Growth | Global Trends [2032] (fortunebusinessinsights.com), 16.09.2024.
6. Patients Beyond Borders | Media, 03.10.2024.
7. Rabotić, B. (2012). *Selektivni oblici turizma*. Beograd: Visoka turistička škola strukovnih studija.
8. Statistics and Data of The Global Market of Medical Tourism (hospitalcmq.com), 01.10.2024.
9. Strategija Razvoja turizma Republike Srbije za period od 2016. do 2025. godine Sl. glasnik RS br. 98/2016). http://demo.paragraf.rs/demo/combined/Old/t/t2016_12/t12_0189.htm.
10. Vovk, V., Beztelesna, L., & Pliashko, O. (2021). Identification of Factors for the Development of Medical Tourism in the World. *International journal of environmental research and public health, 18*(21), 11205.
11. Zhong, L., Deng, B., Morrison, A. M., Coca-Stefaniak, J. A., & Yang, L. (2021). Medical, Health and Wellness Tourism Research-A Review of the Literature (1970-2020) and Research Agenda. *International journal of environmental research and public health, 18*(20), 10875.