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# CHALLENGES OF SPA TOURISM IN THE REPUBLIC OF SERBIA FOR THE REHABILITATION OF CHILDREN WITH MOTOR SKILLS PROBLEMS

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## Abstract

*The need for constant and frequent rehabilitation of children with motor skills problems provides an opportunity for tourism development in the Republic of Serbia. It is certain that there is no possibility for tourism development without quality spatial, professional and technical conditions for good physical rehabilitation, medical monitoring and well-trained therapists, who have knowledge and experience in working with children. Once these conditions have been met, rehabilitation centers can become “open to” this field of health tourism that could provide considerable resources. This paper will deal with spa tourism and capacities in the domain of physical rehabilitation of children, when their stay and therapy is provided by the National Health Insurance Fund, but the emphasis will be placed on the additional tourist facilities for a child and a caregiver, as well as spa therapies that will be funded by the spa itself, with special emphasis on improvement of the quality.*

**Key Words:** *health tourism, spa tourism, rehabilitation, additional tourist facilities.*

**JEL classification:** Z32

## Introduction

Tourism is an important economic branch of Serbia. Tourism with the function of rehabilitation of children with motor skills problems could become a particularly attractive branch within spa (health tourism). Serbia has an immense and long experience in this area, but, on the other hand, it

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is clear that this area requires permanent development, so that the impact on qualitative and quantitative improvement would be constant. In this paper, the authors will offer answers to the following questions:

1. What is the state of tourism in Serbia?
2. What are the capacities in spa rehabilitation for children with motor skills problems?
3. How good is the legal solution for children with gross motor skills challenges when it comes to exercising the right to spa rehabilitation and what needs to be changed?
4. What contents need to be included in the existing system of spa rehabilitation and what new types of therapy?
5. Are there potentials for establishing the National Centre for Rehabilitation in Serbia?

### **General characteristics of spa tourism in the Republic of Serbia**

Serbia, thanks to its natural, geographical, historical, climatic and other benefits, has very favourable conditions for the development of those types of tourism that, according to UNWTO's predictions, will be dominant trends in international relations in the future (Čerović et al., 2015). Tourism in the Republic of Serbia has been recognised as one of the priority development sectors. The location and role of tourism are best determined through the analysis of statistical data. Table 1 shows data on tourist overnight stays in the period 2009-2017.

Table 1: *Tourist traffic - tourist overnight stays from 2009 to 2017*

| Year | Total   | Index | Domestic | Index | International | Index |
|------|---------|-------|----------|-------|---------------|-------|
| 2009 | 6694491 | 104.4 | 5231024  | 105.4 | 1463467       | 100.8 |
| 2010 | 6413515 | 100.0 | 4961359  | 100.0 | 1452156       | 100.0 |
| 2011 | 6644738 | 103.6 | 5001684  | 100.8 | 1643054       | 113.1 |
| 2012 | 6484702 | 101.1 | 4688485  | 94.5  | 1796217       | 123.7 |
| 2013 | 6567460 | 102.4 | 4579067  | 92.3  | 1988393       | 136.9 |
| 2014 | 6086275 | 94.9  | 3925221  | 79.1  | 2161054       | 148.8 |
| 2015 | 6651852 | 103.7 | 4242172  | 85.5  | 2409680       | 165.9 |
| 2016 | 7533739 | 117.5 | 4794741  | 96.6  | 2738998       | 188.6 |
| 2017 | 8325144 | 129.8 | 5150017  | 103.8 | 3175127       | 218.6 |

Source: *Statistical Office of the Republic of Serbia*

The year 2010 was used as a base year. After data analysis, we can see that the number of overnight stays in the past two years (2016 and 2017)

increased significantly in comparison to 2010. From 2011 to 2015, except for 2014, there was a slight increase in the number of overnight stays. In 2014, the number of overnight stays dropped significantly. The analysis of the guest structure (domestic and international) shows a continuous increase in the number of overnight stays of foreigners, while the number of domestic guests' overnight stays was lower than in 2010, except for 2011 and 2017. Low consumer buying power of most Serbian citizens is the biggest cause of the reduced number of overnight stays. One cannot overlook the fact that the Ministry of Tourism uses vouchers to try to popularise both spa tourism and tourism in general; but the consequences of the crisis are far-reaching and they are not an option for a large number of Serbian citizens. 'Analysing the causes of the crisis, there was almost a consensus that it was derived from the 'flaws' of the market, which usually occur during the period of high rates of economic growth and the greed for endless profit making' (Stamatović et al., 2010). Further expectations will undoubtedly move towards greater participation of international guests in comparison to the domestic ones. Table no. 2 shows the number of guests in tourist sites for the period 2009-2016.

Table 2: *Tourist traffic – overnight stays of tourists in tourist sites from 2009 to 2016*

| Year | Main admin. centres | I     | Spa sites | I     | Mountain sites | I     | Other tourist sites | I     |
|------|---------------------|-------|-----------|-------|----------------|-------|---------------------|-------|
| 2009 | 660521              | 96.8  | 358481    | 103.9 | 388616         | 103.2 | 525263              | 102.0 |
| 2010 | 682076              | 100   | 344967    | 100   | 376648         | 100   | 514967              | 100   |
| 2011 | 697117              | 102.2 | 375324    | 108.8 | 402221         | 106.8 | 512594              | 99.5  |
| 2012 | 741281              | 108.7 | 347192    | 100.6 | 397388         | 105.5 | 518048              | 100.6 |
| 2013 | 805046              | 118.0 | 405768    | 117.6 | 398841         | 105.9 | 494630              | 96.0  |
| 2014 | 850726              | 124.7 | 386345    | 112.0 | 372672         | 98.9  | 489026              | 95.0  |
| 2015 | 915172              | 134.2 | 427456    | 123.9 | 446189         | 118.5 | 546377              | 106.1 |
| 2016 | 1035571             | 151.8 | 477102    | 138.3 | 522424         | 138.7 | 605136              | 117.5 |

Source: *Statistical Office of the Republic of Serbia; Index 2010 = 100*

Data analysis shows that administrative centres have an increased number of visitors (Belgrade and Novi Sad). In comparison to the year 2010, the number of visitors in Belgrade and Novi Sad has increased significantly (by more than 50%). When it comes to spa tourism, there is no continuous growth, but the number of visitors is higher every year in comparison to the base year. In 2012, the number of visits was almost identical to the

base year 2010, while the highest increase in the number of guests was recorded in 2016 (38%). The situation is similar with mountain sites, with a slightly lower number of tourists in 2014 compared to the base year (1.1%). In other tourist destinations and other places, the highest growth in the number of tourists was recorded in 2015 and 2016.

Spas and spa tourism are the backbone of health tourism development. The development of tourism in the Republic of Serbia is closely related to the spa tourism development. There are numerous archaeological sites that indicate that Romans had health resorts located on the places of today's spa, which suggests the ancient Romans knew about the therapeutic properties of thermal waters.

The work and traffic in more than 30 spas is being monitored today in the Republic of Serbia. Some people believe that the number of spas in the Republic of Serbia is greater, but due to the unregulated land documentation and the registry of thermal waters, everything remains at the level of 'wild' spas or health resorts.

Table 3: *The list of spas in the Republic of Serbia*

|                    |                    |                    |
|--------------------|--------------------|--------------------|
| Vrnjačka Banja     | Bujanovačka Banja  | Šarbanovačka Banja |
| Sokobanja          | Mladenovačka Banja | Rgoška Banja       |
| Niška Banja        | Novopazarska Banja | Roška Banja        |
| Mataruška Banja    | Ovčar Banja        | Visočka Banja      |
| Bukovička Banja    | Pribojska Banja    | Banja Kanjiža      |
| Banja Koviljača    | Prolom Banja       | Junaković Banja    |
| Vranjska Banja     | Ribarska Banja     | Banja Rusanda      |
| Jošanička Banja    | Banja Vrujci       | Stari Slankamen    |
| Kuršumlijska Banja | Rajčinovića Banja  | Vrdnik             |
| Lukovska Banja     | Banja Badanja      | Novosadska Banja   |
| Sijerinska Banja   | Radaljska Banja    | Pečka banja Ilidža |
| Gamzigradska Banja | Zvonačka Banja     | Banjska            |
| Gornja trepča      | Banja Jošanica     | Bečejska Banja     |
| Bogutovačka Banja  | Palanački kiseljak | Banja Tulare       |
| Brestovačka Banja  | Obrenovačka Banja  | Lomnička Banja     |

Source: *Romelić, 2008*

Table no. 4 shows the number of tourists in the selected spas. Data comparison indicates that Vrnjačka Banja occupies the leading position. In 2016 alone, 42.5% of spa guests in the Republic of Serbia visited

Vrnjačka Banja. According to the data of the Statistical Office of the Republic of Serbia, there was a drastic fall in the number of visitors in three spas: Mataruška, Gamzigrad and Niška. The reasons differ, but transitional changes are common for all of them. Unsuccessful privatisations, unresolved property-legal relations, lack of titulars led to the devastation of former capacities and the lack of investment in new capacities and further development resulted in the decreased number of tourists in Mataruška Banja in 2016 by almost 95% compared to the base year of 2010. On the other hand, we can 'blame' the lack of investment and engagement in marketing activities, that would not only serve to promote the tourist offer, but also to create an integral tourist product, for this state of spa tourism in the Republic of Serbia. Today, in terms of the tourist services users' interest, the focus is no longer on the individual subject of the tourist offer, but on the creation of an integral destination product (Dašić, 2011).

Branding provides numerous benefits for users and consumers, and one of them is building relationships with consumers. Developing and building closer relationship from purely one-off transactions to fully integrated alliances and networks (Dašić, 2010). Undoubtedly, the culprit is the neoliberal trend of capitalism, which is manifested in the form of domination of market fundamentalism in countries such as Serbia. 'The interest is defined by a new neoliberal rhetoric. Terms: capitalism, imperialism, exploitation, surplus value and enslavement are replaced by the following terms: transition, privatisation, entrepreneurship, employer, business, profit. The new roles are a manager and a shareholder' (Anufrijeva et al., 2011). Vrnjačka banja has the largest number of visitors, but Arandjelovac is dominant when it comes to the growth of the number of guests: in 2016, Arandjelovac was visited by 777% more visitors than in 2010 or more than 18% compared to the previous year.

### **Children with motor skills problems as an important health tourism target group**

Motor skills problems often require a frequent and continuous rehabilitation therapy for many years. In case of central nervous system disease, rehabilitation therapy lasts for a lifetime, not just during childhood.

In this regard, children need to be particularly monitored, and there are several basic categories:

- Types of disease / syndrome;
- The age of the child and his need for a rehabilitation assistant;
- Creation of motorised rehabilitation schemes in order to maximise the impact on child's independence;
- Tourist potentials of a spa, adapted to the needs of children of different ages and various motor conditions;
- School-content potentials of spas for primary and secondary school age children; a pedagogue and teacher can provide help to master school materials; i.e. the synergy of rehabilitation and education;
- Additional tourist facilities that would make the rehabilitation treatment more pleasant and without trauma, especially because a large number of children 'returns' for rehabilitation.

The basic idea of this work is the necessity for a clear and precise national strategy that would recognise this target group, with different problems, and permanently work on establishing the content of additional tourism on the one side and rehabilitation medicine and new rehabilitation developments on the other side.

Unfortunately for children and their parents or caretakers, Serbia is unable to provide therapy conditions in every child's home, so spa tourism for children with motor skills problems needs to be further developed.

Children who have temporary or permanent motor skills problems can be classified into the following 10 categories based on the disease:

- Children with congenital anomalies and locomotor system problems;
- Children with locomotor system injuries,
- Children with peripheral nerve lesions;
- Children with central nervous system lesions;
- Children with rheumatic diseases in remission;
- Children with neuromyopathic disorders;
- Children with acquired spinal deformities of and growth disorders;
- Children with psychomotor development delay;
- Children with conditions after hip and extremity surgery;
- Children with injuries caused during childbirth (torticollis and brachial plexus lesion).

Table 4: *The number of tourists in selected spas from 2009 to 2016*

| Spas                | 2009   |       | 2010   |       | 2011   |       | 2012   |       |
|---------------------|--------|-------|--------|-------|--------|-------|--------|-------|
|                     | Σ      | I*    | Σ      | I*    | Σ      | I*    | Σ      | I*    |
| Arandelovac         | 5969   | 134.3 | 4446   | 100   | 22802  | 512.9 | 25513  | 573.8 |
| Bogutovac spa       | 2528   | 105.4 | 2398   | 100   | 2262   | 94.3  | 2375   | 99.0  |
| Vranjska            | 6542   | 104.8 | 6262   | 100   | 5628   | 89.9  | 4874   | 77.8  |
| Vrnjačka            | 147611 | 100.9 | 146246 | 100   | 152603 | 104.3 | 139609 | 95.5  |
| Vrujci – G. Toplica | /      | /     | 11557  | 100   | 11372  | 98.4  | 9387   | 81.2  |
| Gamzigrad           | 7888   | 134.8 | 5851   | 100   | 5753   | 98.3  | 5207   | 89.0  |
| Gornja Trepča       | 10489  | 100.1 | 10481  | 100   | 9762   | 93.1  | 10381  | 99.0  |
| Koviljača           | 18434  | 89.9  | 20512  | 100   | 21693  | 105.8 | 17538  | 85.5  |
| Lukovska Banja      | -      | -     | 7795   | 100   | 12535  | 160.8 | 11173  | 143.3 |
| Mataruška banja     | 8839   | 103.2 | 8567   | 100   | 7138   | 83.3  | 6151   | 71.8  |
| Niška banja         | 22112  | 105.0 | 21049  | 100   | 21614  | 102.7 | 18338  | 87.1  |
| Palić*              | -      | -     | -      | -     | -      | -     | -      | -     |
| Prolom banja        | -      | -     | 14915  | 100   | 15986  | 107.2 | 16712  | 112.0 |
| Sijarinska banja    | 7006   | 104.5 | 6701   | 100   | 6372   | 95.1  | 4735   | 65.3  |
| Sokobanja           | 55313  | 113.3 | 48837  | 100   | 53402  | 109.3 | 49175  | 100.7 |
| Spas                | 2013   |       | 2014   |       | 2015   |       | 2016   |       |
|                     | Σ      | I*    | Σ      | I*    | Σ      | I*    | Σ      | I*    |
| Arandelovac         | 26050  | 585.9 | 28102  | 632.1 | 29145  | 655.5 | 34564  | 777.4 |
| Bogutovac spa       | 2074   | 86.5  | 1737   | 72.4  | -      | -     | -      | -     |
| Vranjska            | 4943   | 78.9  | 4413   | 70.5  | -      | -     | -      | -     |
| Vrnjačka            | 156240 | 106.8 | 146756 | 100.3 | 175153 | 119.8 | 202820 | 138.7 |
| Vrujci – G. Toplica | 9202   | 79.6  | 7688   | 66.5  | 9656   | 83.6  | 10162  | 87.9  |
| Gamzigrad           | 4389   | 75.0  | 3105   | 53.1  | 2255   | 38.5  | 1750   | 29.9  |
| Gornja Trepča       | 9814   | 93.6  | 9913   | 94.6  | 9718   | 92.7  | 11180  | 106.7 |
| Koviljača           | 20644  | 100.6 | 15147  | 73.8  | 15094  | 73.6  | 23026  | 112.3 |
| Lukovska Banja      | 11318  | 145.2 | 11152  | 143.1 | 12616  | 161.8 | -      | -     |
| Mataruška banja     | 4767   | 55.6  | 2792   | 32.6  | 1173   | 13.7  | 464    | 5.42  |
| Niška banja         | 4440   | 21.1  | 4916   | 23.4  | 4747   | 22.6  | 5059   | 24.0  |
| Palić*              | -      | -     | 22030  | 100   | 26656  | 121.0 | 28725  | 130.4 |
| Prolom banja        | 12831  | 86.0  | 11731  | 76.2  | 14363  | 96.3  | 14078  | 94.4  |
| Sijarinska banja    | 5598   | 83.5  | 5721   | 85.4  | 5802   | 86.6  | 6060   | 90.4  |
| Sokobanja           | 50629  | 103.7 | 42438  | 86.9  | 41676  | 85.3  | 45918  | 94.0  |

Source: Statistical Office of the Republic of Serbia; I\* = index; Index: 2010=100, Palić- Index: 2014=100



## **A brief overview of the history of education and rehabilitation in Serbia**

The awareness that special rehabilitation (in fusion with education) should be organized was institutionally raised at the end of the 19<sup>th</sup> and the beginning of the 20<sup>th</sup> century. The first written act that defines the procedures and norms of this profession is the Medical Statute from 1881. It regulated the establishment of the 'Shelter for Poor People with Disabilities' in Niš. After this law, new forms of special education and rehabilitation of children with motor skills problems in Serbia were not organized until the end of the Great War, due to the fact that there was a significant increase in the number of people and children with physical disabilities after the war. 'Statute on the Establishment of a State Department for Children Protection' was adopted in 1919, and it regulated the opening of the 'Institute for Accommodation, Teaching and Training of Children with Disabilities', called 'Disability Institute'. The institute opened in 1923 in Zemun, and one year later, in line with the proposal of the famous teacher Veljko Ramadanović, the Ministry of Social Affairs made the decision to include children with hearing and vision impairment and it was transformed into 'Institute for Blind, Deaf and Disabled Children' on 1 September, 1924.

At the end of the second decade of the twentieth century in Serbia, there was a reorganization of care for children with physical disabilities, so in 1928 the education of physically disabled children in Zemun was stopped, and in 1929 special schools were integrated in the regular state educational system, which resulted in the opening of hospital schools in Kraljevica in 1935 and, a year later, a special hospital school in Sremska Kamenica. These schools were not exclusively intended for children with motor skills problems and invalidity, but they were educational and rehabilitation institutions for children who were hospitalized for a long time, which prevented their regular education.

After the Second World War, there was a new improvement in the institutional care for this population and the care for hospitalized children. A number of departments were established at different health institutions, especially in Belgrade. The first official educational programme in hospital conditions was introduced in 1950 at the Institute for TB, although it was introduced unofficially two years earlier at the children's tuberculosis hospital 'Dedinje'. The next institutionalized hospital school was founded in 1954 at the Children's Hospital of the Medical Faculty in

Belgrade, where two school departments were established, and in 1957 a special education of children with motor skills problems was organized within the Institute for Rehabilitation. The orthopedic hospital in Banjica started this programme in 1961. 'The Special primary school for children with health problems was founded in the school year 1969/70, and one year later the name was changed into 'Dr Dragan Hercog'. It has all primary school departments in hospital units in Belgrade and home teaching for children. Due to the fact that children with permanent motor skills problems need to be recognized as the target population that requires a continuous rehabilitation and education, a school for children with cerebral palsy 'Miodrag Matić' was founded in 1972, at the initiative of the Republic Educational Council. The school enrolled 142 students and formed 17 departments that same year (Stošljević & Adamović, 2010). Today, this is a school for children with various disabilities.

The scientific and professional public has been working hard to include children with disabilities in the regular education system for the past several years. Unfortunately, for some children that is not possible, and special schools will continue to have an important part in their educational upbringing, especially because these schools offer a rehabilitation treatment. When it comes to the categorization and procedures, it is necessary to stress that, according to the Decision on Criteria for Classification of Children with Disabilities, children were classified in the following way (Odluka o kriterijumima za razvrstavanje dece ometene u razvoju, 1986): physical disability, visual impairment, hearing impairment, mental impairment and multiple impairment. Children with motor skills problems are also children with physical disabilities and, based on the same Decision, they were divided into the following three subgroups:

- With severe and permanent locomotor system problems or disorder and with severe and permanent deformities;
- With severe muscular disorder and impairments (cerebral palsy, muscular dystrophy, multiple sclerosis)
- With severe forms of chronic illness and a permanently impaired health condition.

It is necessary to emphasize that the spa rehabilitation of this risky population must also contain educational part during the spa rehabilitation.

## **Rehabilitation rights of children with motor skills problems provided by the National Health Insurance Fund**

The resources of National Health Insurance Fund can enable the conduct of spa stationary rehabilitation treatment for the categories described in Table 5.

*Table 5: Motor skills diseases and conditions of the children whose spa rehabilitation was provided by National Health Insurance Fund*

| Neurological disorders                 |   |                                |                          |
|--|---|--------------------------------|--------------------------|
| No.                                    | Diagnosis code  | Rehabilitation period          | Prolonged rehabilitation |
| 1                                      | Diagnosis code G70: Muscular dystrophy  | 21 day in every 36 months      | -                        |
| 2                                      | Diagnosis code G80: Cerebral palsy for children under the age of 18   | 21 days in every calendar year |                          |
| 3                                      | Diagnosis code P14.3: Brachial Plexus lesion and P14.9: Peripheral nerve lesion for children under the age of 6 | 30 days in every calendar year | -                        |
| 4                                      | Diagnosis code R62.0: Motor retardation for children under the age of 18  | 21 days in every calendar year | -                        |
| Locomotor system injuries and diseases |   |                                |                          |
| 5                                      | Diagnosis code IK5.3: Condition after spine surgery   | 21 days                        | -                        |
| 6                                      | Diagnosis code EKK5.4: Condition after hip or knee endoprosthesis(including revision)                           | 21 days                        | -                        |
| 7                                      | Diagnosis code KO5.5: Condition after corrective pelvic osteotomy   | 21 days                        | -                        |
| 8                                      | Scoliosis for children under the age of 16 after the corrective surgery M41                                     | 21 days                        | -                        |
| 9                                      | Kyphosis et lordosis for children under the age of 16 only after the corrective surgery M40                     | 21 days                        | -                        |
| 10                                     | Diagnosis codes S32: Fractura pelvis for at least two bones of pelvic ring                                      | 21 days                        | 21 days                  |

|  |   |                               |         |
|--|---|-------------------------------|---------|
| 11   | Fractura extremitatis superioris<br>bilateralis TO2.4   | 21 days                       | -       |
| 12   | Fractura femoris S72  | 21 days                       | 15 days |
| 13   | Fractura cruris,  |                               |         |
| 14   | regionem talocruralem, includes S82   | 21 days                       | -       |
| 15   | Fractura extremitatis inferioris,<br>bilateralis TO2.5  | 30 days                       | 15 days |
| 16   | Fractura pedis multiplex S92.7  | 21 days                       | 21 days |
| 17   | Luxatio et subluxatio coxae<br>congenita  |                               |         |
| 18   | for children under the age of 18 after<br>surgical intervention Q65   | 21 days                       | 14 days |
| 19   | Deformationes pedis congenitae  |                               |         |
| Rehabilitation of pediatric oncology patient |   |                               |         |
| 20   | Children with oncological disease<br>(under the age 18) during the first 5<br>years after the diagnosis, i.e.<br>hematopoietic stem cell<br>transplantation | 21 days in a<br>calendar year |         |

Source: *Pravilnik o medicinskoj rehabilitaciji u stacionarnim zdravstvenim ustanovama specijalizovanim za rehabilitaciju*

The table clearly indicates that the rehabilitation of children with motor skills problems is defined by time and other conditions, which is not tackled in our work. Also, the lack of legal framework is reflected in the fact that the 21 days of rehabilitation are not enough for children with motor skills problems. Although these children have a certain number of physical treatments in primary or tertiary health facilities, because of the benefits of continuous spa rehabilitation, which includes a package of therapies during a certain time, parents and caretakers are instructed to organize an additional spa therapy from their own funds. Therefore, the spa tourism of this target population should be considered as a very important segment of spa health tourism.

Certain studies show that 40% of children with neurological and muscular disorders in Banja Koviljača, which is the leading spa institution for the rehabilitation of children with motor skills problems in our country, decide on an extra therapy package from personal funds in addition to therapy funded by the National Health Insurance Fund. The duration of the personally funded therapy is 15 days.

The basic idea of the work is not to criticize the legal framework. It is certainly very positive that this category has been recognized, which also provides a minimum rehabilitation for social categories affected by these diseases. However, from the aspect of social responsibility, inclusion and maximum independence of such children, but also because of the need for continuous permanent therapy as a lifestyle, it is necessary to try to prolong the rehabilitation period in the future. Also, the new legal solutions should find modalities for children with cerebral palsy, who fall out of the category of children at the age of 18, and stop receiving physical spa therapy provided by the National Health Insurance Fund. The therapy duration should be prolonged due to their condition, but also the age limit for spa rehabilitation funded by National Health Insurance Fund should be increased for children with plexus, spina bifida and rheumatoid arthritis. In order to avoid any age discrimination, it is necessary to point out a conscious responsibility towards the dependency ratio in Serbia, but also the world. 'Dramatic demographic changes will continue in the next 40 years due to two main reasons: life expectancy increase and birth rate drop. For a particular country, this means that the dependency ratio in 2040 will be 15. Practically, that signifies a decrease in the working age population in the total population' (Anufrijev, 2007). Although many spa facilities, rehabilitation centres and spa centres have focused their potentials on the population that is no longer active (retirees) for years, and it is expected that future capacities and facilities have the most economic interest where the highest demand is; the need of children with motor skills problems for continuous spa rehabilitation and rehabilitation in general must remain the focus of interest when it comes to the legal frameworks, and expanding the content and qualitative and quantitative capacities for this category.

Understanding the significance of trauma and post-operative rehabilitation, which is usually limited, and that complete recovery is expected in a particular framework in most cases, the legislator should put more focus in the future on the content of rehabilitation when it comes to children with permanent damage in motor functions.

### **Significant aspects of stimulation and spa rehabilitation of children with motor skills problems**

‘...mentally or physically disabled child should enjoy a full and decent life, in conditions which ensure dignity, promote self-reliance and

facilitate the child's active participation in the community' (Article 23 of the UN Convention on the Rights of the Child, 1989).

Given the life-long consequences, children with cerebral palsy, which is the most common and most expensive form of chronic motoric handicap beginning at the earliest childhood, deserve the attention of researchers. Unfortunately, there is not enough such research, especially in the sphere of cognitive development, which is one of the main factors in determining the child's quality of life. In order for a research to be properly conducted, it is important that medical record keeping is uniform, precise, systematic and comprehensively implemented through a set of standardized procedures. The sequence of stages in diagnostic processes was proposed and adopted by European and highly specialized agencies and committees in the world, but also CP associations (Ashwal, et al, 2004). In a country like Serbia, which has experienced economic crises, wars, and imposed isolation from the current scientific trends and developments in the past decade, it is not realistic to expect that it can be an equal active participant in monitoring and developing contemporary medical theory and clinical practice. These factors have had a negative influence on the modernization of techniques and procedures for cerebral palsy diagnosis (Vidović, 2016).

The importance of an early rehabilitation of children with problems caused by cerebral palsy, which is the most common neurological disease, is the only possible way of establishing a condition with the minimum possible consequences for a child with motor skills difficulties caused by the disease. In Europe, one in 500 children have cerebral palsy, and every year about 10,000 children get a cerebral palsy diagnosis (Colver, 2006).

It is very important to start with an early stimulation and recommend a stationary spa treatment, because the quality of the movement pattern is observed during the pattern of movement and muscle group coordination. The quality and variety of movement allow the child to change positions independently. The quality of the movement pattern can be:

- Normal – when perceived as usual;
- Abnormal – it is not classified as normal, but it is not pathological. Therapeutic measures and physical treatments during rehabilitation treatment (with an active spa rehabilitation) can lead to a normal pattern, but not to an optimal one, while the aforementioned actions prevent the pathological pattern;
- Pathological - it can never turn into normal.

Therefore, an early diagnosis and treatment is extremely important. The sooner you discover the damage, the bigger are the chances to stimulate a normal psychomotor development. Abnormal patterns of movement that determine the rehabilitation may have two manifestations. Those manifestations are:

- Flexion, abduction, external rotation
- Extension, reproduction, internal rotation.

As abnormal patterns enter the body scheme, the task of rehabilitation is to change the pattern of movement and posture. When the abnormal pattern is in function for a long time, habits are being created, and this worsens the abnormality of the pattern. Practically, all rehabilitation methods for children with motor disorders are validated in medicine. Rehabilitation is very effective, if the treatment starts in the early period. Within the Special Hospital for Rehabilitation Banja Koviljača, the Children's Unit was founded as a special department on 1 March, 1989, and it is the first of its kind in the country. It is especially important when it comes to stimulating motor development of children with gross motor skills problems and it has high medical and therapeutic standards in this field. It is located in a special building with about 100 beds for children and their parents, escorts. All therapeutic procedures are performed in the same building, there are two kinesis rooms, for babies up to one year and for older children, then work therapy, electrotherapy procedures, hydro-kinesis therapy in the pool or hubbard baths, underwater massage, paraffin therapy. Sulfur peloid from Banja Koviljača is used in sulfur baths for children over one year, it is unique in the world and provides excellent results in the treatment of various diseases of children's locomotor system.

One of the biggest advantages of Banja Koviljača Spa is the sulfur peloid. Peloid is locally applied directly to certain skin parts (as a wet heat). The peloid temperature is 38-40 degrees. Application duration is 20 min, followed by bath, rest and kinesiotherapy. Due to resistant contractures, regardless of the etiology, kinesiotherapy is used in peloid (shoulder, elbow, knee, ankle).

The use of Banja Koviljača's sulfur peloid in children's treatment is unique in the world's balneology. The application is based on empirical and expert knowledge over 100 years. Since the children's department was founded, the use of sulfur peloid has been carried out according to strict indications and with expert supervision. Other child rehabilitation

services include electrostimulation when necessary, hydro therapies, kinesiotherapy, and work (occupational therapies).

Further consideration of the scope of therapy and possibilities for their application requires the expansion of the therapeutic capacities of speech therapist, defectologist, but also application of some methods that are considered alternative in Serbia, which are officially used in the world such as Hypotherapy (Horse Therapy) and ABR therapy. The standards that should be imposed in Banja Koviljača, which is the representative centre for children's physical therapy in the region, are:

- Enabling children to attend school during therapy, at least by providing pedagogues that will help older children to study;
- Enabling pre-school children to continue or start socialization by organizing a kindergarten group in the afternoon;
- Expanding tourist facilities for both children and escorts (workshops, games without borders, creative events and artistic content);
- Psychological support workshops for parents;
- Various schools (painting, computers, music);
- Opening the sensory room in order to adjust therapies to children with attention impairments.

Practical experiences from the environment show that rehabilitation centres must be constantly transformed in order to keep up to date with modern achievements, but also to ensure that content is always acceptable to children, since in most cases it is for children with development challenges. Development potentials of Serbia have the capacity to open a strong rehabilitation centre, but also Banja Koviljača has the potential for a greater significance in children's rehabilitation. Experiences can be found in the Renona Rehabilitation Center in Slovakia, Glavić Polyclinic in Dubrovnik, Institute for Clinical Rehabilitation in Tula (Russia), Borsohaz Center in Hungary, etc. The continuous work with patients, constant training of therapists and transfer of knowledge to parents, as well as the affordability of therapy and accommodation can be one of the developmental branches of specially defined tourism in Serbia, with benefit that would be measured by the degree of independence of the motor system of such children, as well as the teaching base for colleagues that would be included in such an undertaking. Therefore, in the future, it is necessary to find ways to enhance quality of rehabilitation of children with motor skills problems in other spas in Serbia that can be included in this segment, but we should not dismiss solutions offered by surrounding



rehabilitation centres, especially when it comes to new therapeutic solutions.

Since Banja Koviljača's capacity is often insufficient for the necessary conditions for the rehabilitation of children with motor skills problems, the National Center for Rehabilitation is a necessary solution for Serbia. In addition to the benefits for children from Serbia, the basic task would be to create a database of children with motor skills problems. The scattering of institutions and the lack of a national base for this category of children is a strategic problem that needs to be addressed alongside activities related to rehabilitation and therapy. Capacities of this kind certainly exist, and the solution to this problem requires quick and efficient action.

### **Conclusion**

Contemporary achievements in physical rehabilitation of children with motor skills problems are being constantly innovated and subject to change. Their ultimate goal is to maximize the independence of such a child, who will grow into an adult. When the cause of the problem is neurological, rehabilitation is continuous and repetitive. When it comes to this problem, Serbian spas have great potential, especially Banja Koviljača. Unfortunately, they have not implemented some modern therapies that have proven to be very effective. Also, generally speaking, a number of overnight stays is greater when it comes to foreign resident than domestic ones, although the Serbian government has offered vouchers for vacations in Serbia for a couple of years. Due to the demographic characteristics, Serbian health tourism spas turn to the older population and pensioners. Thus, the rehabilitation of children with motor skills problems is not in the foreground when it comes to the accommodation capacities. The legislation recognizes this problem and allocates finances for rehabilitation from National Health Insurance Fund for certain diagnoses. However, those funds are not always sufficient so parents of children with motor skills problems are forced to personally fund an additional therapy in Serbian spas, private physiotherapies, or rehabilitation centers in the surrounding area. In this domain, Serbia needs the National Body for Physical Rehabilitation of Children with Motor Skills Problems, which would create and maintain the database for this vulnerable category, but would be turned into a real rehabilitation centre intended exclusively for children in the future. It should have enough content and human capacities, and cover the need for different

types of rehabilitation, socialization or continuation of socialization and parental support. It should be an important centre of health tourism, with accompanying tourist facilities for children and escorts, taking into account the principles of convenience, priority and benefit for children from Serbia, and apply the full market price for children from abroad.

## References

1. Anufrijević, D.A. (2007). *Modeli konkurentnosti penzionih fondova u Srbiji*, Biblioteka Dissertatio Zadužbina Andrejević, Belgrade.
2. Anufrijević, D.A., Vukajlović Dj., Stamatović Lj.M. (2011). Neoliberal capitalism through the curtain of the economic crisis, *Facta Universitatis series for economics and organization*, Vol. 8, No. 4, 451.
3. Ashwal, S., Russman, B.S., Blasco, P.A., Miller, G., Sandler, A., Shevell, M., Stevenson, R. (2004). Practice parameter: Diagnostic assessment of the child with cerebral palsy: Report of the quality standards subcommittee of the Child neurology society. *Neurology*, Vol. 62, No. 6, 851-863.
4. Čerović, S., Barjaktarović, D., i Knežević, M. (2015). Podrška razvoju turizma kao faktor konkurentnosti Srbije kao turističke destinacije, SITCON 2015 – Key issues on tourism destination competitiveness.
5. Colver, A. (2006) Study protocol: SPARCLE – a multi-centre European study of the relationship of environment to participation and quality of life in children with cerebral palsy, *BMC Public Health*, London, 105.
6. Dašić, G (2010). *Upravljanje odnosima sa potrošačima i interaktivnost*, Monografija, Biblioteka Dissertatio, Zadužbina Andrejević, Belgrade.
7. Dašić, G. (2011). Strategijski okvir za razvoj i brendiranje turističke destinacije, Tematski zbornik, VI Međunarodni naučni skup – Turizam i ruralni razvoj – Savremene tendencije, problemi i mogućnosti razvoja, Trebinje, 153-165.
8. Romelić, J. (2008): Turističke regije Srbije, PMF Novi Sad, Departman za geografiju, turizam i hotelijerstvo, Novi Sad.

9. Službeni glasnik RS, (2016). Pravilnik o medicinskoj rehabilitaciji u stacionarnim zdravstvenim ustanovama specijalizovanim za rehabilitaciju, Službeni glasnik RS, br. 75/2016.
10. Službeni Glasnik SRS, (1986). Odluka o kriterijumima za razvrstavanje dece ometene u razvoju, Službeni Glasnik SRS, br. 16/1986.
11. Stamatović M., Radonjić S., Anufrijev A. (2010) „The World Economic Crisis impact on Serbia in the context of its Association with the European Union“ *Facta Universitatis – Series for Economic and Organization*, Vol. 7, No 1, 3.
12. Stošljević, M., Adamović, M. (2010). Istorijski razvoj specijalne edukacije i rehabilitacije osoba sa motoričkim poremećajima. Tematski zbornik radova Prve međunarodne konferencije “Specijalna edukacija i rehabilitacija – nauka i/ili praksa”, Sombor. 108-118.
13. Tourism development strategy of the Republic of Serbia (2016). Government of the Republic of Serbia Ministry of trade, tourism and telecommunications.
14. UN Convention on the Rights of a Child, (1989).
15. Vidović, P. (2016). *Kognitivne posledice rane ozlede mozga kod dece sa cerebralnom paralizom normalne inteligencije*, doktorska disertacija, Fakultet za specijalnu edukaciju u rehabilitaciju, Beograd.