

Fürdőgyógykezelési protokoll és betegforgalmi adatok egy hazai gyógyfürdő példáján

Medical bath treatment protocol and patient turnover data by a hungarian medical spa bath example

HOJCSKA ÁGNES ERZSÉBET¹

Absztrakt

A mozgásszervi betegségek jelentős problémát jelentenek a fejlett országokban. Ezek a problémák Magyarországon jól kezelhetők, a számos ásvány- és gyógyvíznek köszönhetően. A gyógyvizeken alapuló fürdőgyógykezelések jelentős értéket képviselnek a mozgásszervi betegségek gyógyításában. Ezek a gyógykezelések a Nemzeti Egészségfejlesztési Alapkezelő támogatásával is igénybe vehetők Magyarországon. Ezeknek a terápiáknak az igénybevételét és a finanszírozását is törvények és protokollok szabályozzák hazánkban. A tanulmány egyik célja, hogy bemutassa a fürdőgyógykezelések protokollját, a másik célja pedig a gyógykezelési betegforgalmi adatok változásának bemutatása egy hazai gyógyfürdő példáján keresztül. Az eredmények jól tükrözik a fürdőgyógykezelések szerepét és értékeit a mozgásszervi megbetegedések gyógyításában.

Kulcsszavak: betegforgalom, fürdőgyógykezelések, kezelési protokoll, statisztikai adatok

Abstract

The musculoskeletal diseases is a major problem in the developed countries. Thanks to the lot of mineral- and thermal waters, there is a good therapy these problems in Hungary. The medical bath treatments based on medical thermal waters is significant value represent in the musculoskeletal diseases problems healing. These therapies available with support of National Health Insurance Fund too in Hungary. Using and financing these medical spa treatments are governed by laws and protocols in ours country.

One of the goals of the study to present the medical spa treatments protocol, and the other goal of the study to present the spa treatments turnover data's change too, by a Hungarian medical spa bath example.

The results reflect well the role and values of medical bath treatments in the healing of musculoskeletal diseases.

Keywords: medical bath treatments, patient turnover, statistic data, treatment protocol

INTRODUCTION

Musculoskeletal disorders cause major social and economic problems in developed countries, including Hungary, where these disorders are the fourth in the ranking of non-communicable diseases and are responsible for living with disabilities for years. Professionals face a range of challenges when treating and curing these diseases and improving the life quality of these patients. Conservative treatments, which include medical therapies and physiotherapy care play a primary role in treating musculoskeletal disorders. Some of these are based on natural treatment factors, such as thermal water supply which can be found in outstanding quantity and quality in our country (Poór et al., 2005). This thermal resource is the basis of the spa-

¹ MSc, Physiotherapist, Békés County Central Hospital, e-mail: h.agnes.erszebet@gmail.com

medical system established in Hungary, which is under strict legal and professional regulations. Thanks to these regulations, national spa treatments can be considered as uniform, but local features and protocols make medical institutions unique.

The aim of the study is to demonstrate the thermal treatment protocol of a famous nationally rated thermal spa as well as to present the changes in data related to the number of patients based on this protocol between the period of 2009 and 2012.

1. THE PLACE OF THERMAL SPA TREATMENTS IN PHYSIOTHERAPY

Musculoskeletal disorders, which are like an „epidemic” are a growing problem for the society in developed countries. Reducing the number of diseases and mitigating symptoms are a major challenge for professionals. In the treatment of diseases affecting the musculoskeletal system, conservative treatments have a major role to play, which include physiotherapeutic procedures in addition to medication. Physiotherapy is applied as a rescue therapy, but there are treatments which can be accepted as targeted therapy, like therapeutic gymnastics, whose effect cannot be replaced by any other therapies.

Physiotherapy uses the energies of nature during therapies, which can be used in natural form or artificially produced during healing processes. The natural energy used in physiotherapy is chemical, mechanical, heat, magnetic and electrical energy. Treatment types can be divided according to the type of energy applied in physiotherapy and the response to the input energy. The former is the Hungarian, the latter is the German classification (Csermely, 2001).

According to this, thermal spa treatments can be classified as hydrotherapeutic or balneotherapeutic procedures, depending on whether it is a treatment with tap water or thermal water (Szabó–Hojcska, 2017). In addition to these therapies, several physiotherapy treatments can be used in spa-medical institutions, according to the institution’s particularities. Certain types of the treatments can be supported by NEAK (National Institute of Health Insurance Fund Management) – previously OEP (National Health Insurance Fund) (Hojcska, 2017) – while other types of them help patients recover on a self-funding basis (Hojcska–Szabó, 2017). Regardless of funding, the mode and conditions of the provision of medical treatment is strictly regulated in Hungary, the main directions of which are listed below.

2. FACTORS UNIFORMLY REGULATING THERMAL SPA THERAPIES

Treating patients with musculoskeletal disorders is also considered as medical care during the application of physiotherapy methods. Therefore, the primary legal framework is set out in the Act CLIV of 1997 on health, which is supplemented by additional legal measures (Hojcska–Kurth, 2016). This includes the Decree No 60/2003 (X.20.) EszCsM - Ministry of Health, Social and Family Affairs (Pulay, 2003) - defining the professional conditions of healthcare services, and the Decree No 74/1999 (XII. 25.) EüM – Health Ministry – on the use of natural therapy factors (Bártfay, 1999). Separate provisions apply to providers of spa treatment facilities which, under contractual arrangements with the support of NEAK, provide medical treatment to patients with musculoskeletal disorders. These facilities have to keep the regulations of Decree No 5/2004. (XI. 19.) EüM (Pulay, 2004), Decree No 27/2011. (V. 31.) NEFMI (Ministry of National Resources) (Gál, 2011). In the case of the latter providers, financing is also regulated within the framework of the qualification of the provider (national,

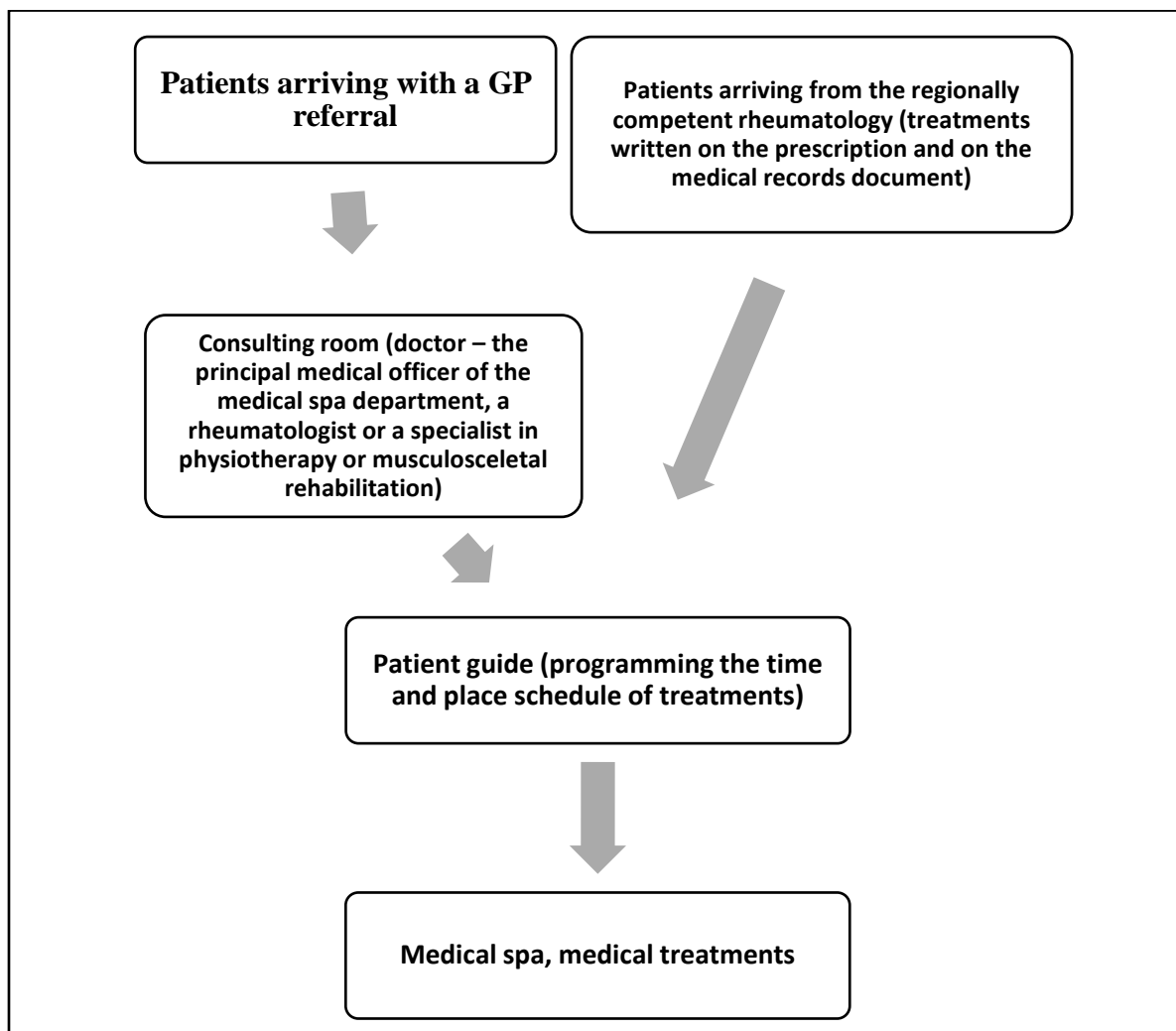
district, local) according to the Decree No 23/2007. (V. 18.) EüM (Gilyán, 2007) and No 7/2012 (VI. 29) EMMI - Ministry of Human Resources – Regulation (Bíró, 2012).

3. CARE PROTOCOL THROUGH THE EXAMPLE OF A NATIONAL THERMAL SPA

Healthcare protocol is a sorted list of activities and processes required to perform the given medical care and treatment (Belicza–Lám, 2011). This chapter presents a detailed description of the institutional care protocol of a nationally rated thermal spa located in Békés County (validity: 2009-2012), from the arrival of the patient to the medical treatment prescribed by the specialist. Medical spa's city in the study, the modern and continuously evolving city, Gyula (Szabó, 2012; Szabó, 2015). This traditional spa town is a founding member of the Hungarian Spa Towns Association (Szabó, 2013). The aim of this protocol is to summarize the care and treatment processes based on the relevant legislation and literature, which helps to improve the quality and safety of the care. The following figure shows the steps of the care process when patients arrive to the thermal spa (Figure 1).

1. ábra: A beteg útja a fürdőgyógyászati ellátások során

Figure 1 The steps that patients have to take during balneotherapy medical spa treatments



Forrás: Saját szerkesztés
Source: Self-editing

The care process begins with the referral of the patient and finishes with controlling the condition of the patient after performing the medical treatments and handing the medical record justifying the applied treatments. In the following subchapters, the protocol of these care processes is described.

3.1. REFERRAL, PRESCRIBING MEDICAL TREATMENTS

In Hungary, medical spa treatments are available in a way of self-financing or with social insurance. When one avails himself of social insurance support, medical care can be provided by health care providers providing medical rehabilitation services, in a thermal spa, as well as in a non-thermal spa bath. However, in each case, prior to treatment, a specialist examination is required. Exceptions are therapeutic massage treatments that can be used without medical examination in self-financing form.

Referring the patient to thermal spa treatments starts with visiting the general practitioner. After the examination the general practitioner provides the patient with a GP's referral to the regionally competent rheumatology or to the institutional specialist providing thermal spa therapy. Medical spa therapy can only be used with social insurance when it is ordered by a rheumatologist, physical therapist, podiatrist, or doctors engaging with musculoskeletal rehabilitation, physical disorders or rehabilitation processes and a traumatologist in case of traumatological indication. The patient is examined by the competent specialist who in accordance with the patient's illness and condition, in each case tailors the proposal to the necessary therapy individually, and issues a prescription and two medical records. Two thermal spa treatments can be ordered from four different spa factors, up to 15 times in one calendar year. Required for the medical examination: the general practitioner's referral, the social security card and the medical examination reports. The shortest period of a rehabilitative bath treatment is 6 treating days. Medical examinations are available from Monday to Friday from 8.00 am to 2.00 pm. According to the general regulations, travel expenses are refunded when having medical treatments. Travelling card is issued by the doctor who orders the medical treatment and after having the treatments the card is stamped by a person appointed by the service provider.

After the treatments the patient is obliged to appear in the specialist's control and to hand over the medical record.

There are several indications and contraindications to the use of therapies, which are considered indispensable before the treatments begin.

Indications of bath treatments:

- spinal and articular diseases of abrasive origin;
- chronic cerviobrachialgia; lumboischialgia;
- orthopaedic interventions;
- after-treatment of accidents;
- following neurosurgical interventions;
- during the inactive phase of arthritis caused by osteoporosis;
- treating chronic gynaecological inflammations;
- treating chronic urological inflammations
- treating vasoconstrictions;
- skin diseases (eczema, lichen, psoriasis).

Contraindications of bath treatments (the most frequently occurring problems):

- serious heart troubles;
- rhythm disorders;
- untreated high blood pressure;
- acute fevered infectious diseases;

- malignant tumour diseases;
- serious liver and kidney troubles;
- disorders of the nervous system, epilepsy;
- inflamed skin diseases, crural ulcer;
- faecal and urinary incontinence problems;
- persons under the influence of alcohol (we do not treat drunk patient).

The composition of the thermal water also plays an important role in the efficiency of the treatments. The composition of the thermal water of the spa institution providing a place for my current research is presented in Table 1.

1. táblázat: A gyógyvíz összetevői
Table 1 Medicinal water components

| Name of the element | Sign of the element | Quantity of the element |
|---------------------|---------------------------------|-------------------------|
| Potassium, sodium | K+, Na+ | 683,0 mg/l |
| Ammonium | NH ₄ ⁺ | 5,2 mg/l |
| Calcium | Ca ²⁺ | 10,7 mg/l |
| Magnesium | Mg ²⁺ | 1,3 mg/l |
| Iron | Fe ²⁺ | 0,1 mg/l |
| | KATIONOK | 700,3 mg/l |
| Hydrocarbonate | HCO ₃ | 1708,8 mg/l |
| Nitrate | NO ₃ | 0 mg/l |
| Choride | Cl ⁻ | 88,0 mg/l |
| Bromide | Br ⁻ | 0,1 mg/l |
| Fluoride | F ⁻ | 1,0 mg/l |
| Iodide | I ⁻ | 0,4 mg/l |
| Sulphate | SO ₄ ²⁻ | 12,8 mg/l |
| Phosphate | PO ₄ ³⁻ | 1,0 mg/l |
| | ANIONOK | 1811,3 mg/l |
| pH | | 7,95 |
| Free carbonic acid | CO ₂ | 35,0 mg/l |
| Meta tartaric acid | HBO ₂ | 15,0 mg/l |
| Metakovasav | H ₂ SiO ₃ | 70,0 mg/l |

Forrás: Az intézmény üzemeltetési szabályzata alapján, saját szerkesztés
Source: Self-editing based on the operational regulations of the institution

3.2. PATIENT GUIDE

Patients possessing their medical record and prescription prescribed by a specialist can turn to the patient guide counters, where the time and place schedule of the treatments are programmed. Treatments prescribed by the specialist must begin within 30 days in order to keep the validity of the prescription. The duration of treatments is 8 weeks in the cases of medical spa treatments (Pulay, 2004). At the patient guide counters medical dispatchers control the patient's social insurance entitlement then the treatments prescribed by the specialist are programmed taking into account the professional requirements and the patient's needs. In this medical unit it is also possible to pay for the treatments as well as to purchase the treatment bed sheets. It is possible to program the treatments and to make any necessary

changes during the opening hours of the patient guide which is from Monday to Sunday between 8.00 am to 4.00 pm.

In the subsequent chapters, the protocols for self-financed therapies supported by the Health Insurance Fund are described in a separate subsection, in accordance with the patient care process.

4. THERAPY PROTOCOLS SUPPORTED BY THE HEALTH INSURANCE²

Therapy services or rehabilitation activities with the use of natural thermal factors are provided by thermal spas. Medical spa therapies are therapies which belong to medical rehabilitation care and are applied in cases of rehabilitation treatments related to the improvement of the functions in case of cardiovascular diseases, chronic rheumatology, orthopaedics and neurology. With regards to the importance of medical spa treatments in rehabilitation care, providers are given social insurance support to certain types of treatments. In addition to medical spa treatments, carbon dioxide thermal gas spa and therapy swimming in groups under 18 are available with the support of health insurance. Therapies are available for patients from Monday to Friday from 8.00 am to 4.00 pm.

All therapies supported by the health insurance are available at the observed institution except for the carbon dioxide thermal spa treatment (Table 2).

2. táblázat: A bemutatott intézmény egészségbiztosítási támogatással igénybe vehető gyógykezelései

Table 2 Therapies available with the support of health insurance at the institution presented

| Codes of treatments | Names of treatments | Prescribed treatment time |
|----------------------------|--|----------------------------------|
| 01 | Thermal bath treatment in pool | 30 min. |
| 02 | Thermal bath treatment in tub | 20 min. |
| 03 | Mud pack treatment | 20 min. |
| 04 | Weightbath treatment | 15 min. |
| 05 | Carbon dioxide bath treatment | 15 min. |
| 06 | Medical massage treatment | 20 min. |
| 07 | Underwater water-jet massage treatment | 15 min. |
| 08 | Underwater group therapeutic gymnastic treatment | 25 min. |
| 09 | Complex spa treatment | 240 min. |
| 10 | Group medical swimming under 18 years of age treatment | 45 min. |

Forrás: Pulay, 2004 alapján, saját szerkesztés
Source: self-editing based on Pulay, 2004

All treatments are performed and supervised by professionally qualified staff observing the requirements defined in Decree of the Minister of Public Health 17/1997 (IV.30.). Before the treatments, the therapists receive the patient's day care list from the patient guide and prepare the tools and materials needed to perform the treatments and for disinfecting. The reception of

² Author's note: The protocol described was valid from January 2009 until the end of December 2012, as described.

patients are scheduled by the patient guide and it is constant in the opening hours. When arriving, the patients place their medical records in a box specially made for this purpose. Patients are informed about the method, process and duration of treatments by the assistants who perform the treatments. Treatments are carried out by the specialists in compliance with the professional rules and with the instructions written on the medical records (Csermely, 2009). At the end of the treatment, the specialist assistant confirms the treatment with a stamp and a signature on the medical record, then returns it back to the patient. Before receiving another patient, after each treatment the place is disinfected. At the end of the day, the employee summarizes the number of treatments performed based on the treatment list, this summary is then listed on the form specially made for this purpose and hands it in the patient guide.

4.1. THERMAL BATH TREATMENT IN POOL (01)

The healing power of water lies in its mechanical, thermal and chemical characteristics. The mechanical effect is the buoyancy force and hydrostatic pressure. High temperatures (36-38°C) support circulation and peripheral circulation, and increases minute ventilation. Some of the chemical compounds in medicinal water work their effect through the skin, others have a pharmacological effect once they get into the blood stream. An essential component of any bath therapy is the regular repetition of subliminal stimuli that affect the central nervous system and through that the entire neurohormonal system. Medicinal water can bring about changes in skin temperature, muscle strength, muscle volume and circulation. It may alleviate muscle pain, disorders of the motor system, and swelling in joints. Experience shows that water rich in sodium hydrogencarbonate, in conjunction with intensive thermal and other stimuli, can also be effectively used in rheumatic conditions and other chronic diseases (Fioravanti et al., 2010). The sodium hydrogen carbonated healing waters shows the following effects during a water cure: It enhances the regeneration ability of the body, has painkiller effect, mitigates allergic reactions, calms the nervous system and decreases sleep disorder. At appropriate temperature, it reduces inflammatory processes, and breathing it in it helps to cough respiratory phlegm up. Moreover, it reduces muscle tightness. Since it contains also a considerable amount of metasilicic acid, it decreases the symptoms of many skin diseases such as eczema, lichen and psoriasis (darte).

Thermal spa treatments in the thermal pool are available during the whole opening hours of the spa. The recommended treatment (bathing) time is two to three times a day for 20 to 30 minutes a day, unless otherwise prescribed by the doctor. These treatments are available in the following pools:

- Riding Hall Thermal Swimming Pool;
- Riding Hall thermal pool I.;
- Riding Hall thermal pool II.;
- "Butterfly" thermal pool;
- "Octopus" Thermal Pool;
- Waterfall Pool.

4.2. THERMAL BATH TREATMENT IN TUB (02)

This treatment takes place in a tub filled with medicinal water, under the supervision of qualified staff. Having a bath in tub is recommended for those who are suffering from a non-infectious skin disease (for example psoriasis), have incontinency or severe heart or cardiovascular conditions. This treatment is available from Monday to Friday from 08:00 until 16:00.

4.3. MUD PACK TREATMENT (03)

In our therapeutic section, we apply it in the form of mudpack. We use the medicinal muds of Maros River as base material, which we boil in a special mud-boiling kettle to 100 °C with our own medicinal water and then cool to 42 °C. On which temperature we apply to treat the prescribed regions. Its effects derive partly from the local effects of heat, and on the other hand from the admission of the dissolved mineral material to the body.

This treatment is used for chronic inflammations, rheumatic and degenerative diseases. First of all it is suitable to treat degenerative articular and spinal diseases, abrasions in the joints of hip, knee and ankle, low back pain, vertebral disc abrasion, contractions caused by passed off arthritis, sequelae of sports injuries, surgical interventions, old injuries and fractures, as well as, certain forms of gynaecological inflammations and infertility (Bellometti et al., 1997). Any acute inflammation contraindicates the treatment.

4.4. WEIGHTBATH TREATMENT (04)

Dr. Károly Moll did the first subaquatic traction with a wooden raft in the Hévíz Lake (Moll, 1953). This treatment we do in a special pool at a 34-35°C water nowadays. We apply a hanging up by anchored on neck or fortified on arms depending on whether the patient has cervical, dorsal or lumbar spine complaints or hip, knee or ankle articular complaints. Hanging modes: neck suspension (one point), underarm support (two point), combination of the previous two (three points). Likewise, the primary illness determines where and how much weight we apply, or possibly we do the treatment without any weight (Kurutz et al., 2003). The objective of the treatment is to distance the vertebrae gently (supported by buoyancy). This effectively lengthens the spine, making it possible to restore the original state of vertebral discs. The most important conservative treatment for spinal wear and degenerative diseases.

4.5. CARBON DIOXIDE BATH TREATMENT (05)

This treatment is recommended for peripheral circulatory conditions and vasoconstriction. The patient sits in a special tub while the CO₂ works its effect the vascular system. The released carbonic acid covers the patient's body in small bubbles. This causes the skin to blush, dilates capillaries, facilitates blood flow and aids the functioning of coronary arteries.

The saturator, in which carbon dioxide is mixed with water, is placed below the treating tub; from here, we carry the carbonic acid water to the tub half filled up with thermal water. The treatment affects primarily on the circulatory system: it is of vasodilator, circulation-improving effect, reduces blood pressure and improves the function of heart and lungs; consequently, we apply to patients suffering from vasoconstriction, cardiac troubles, after myocardial infarction, in the rehabilitation of heart operation. From the locomotor disorders it is good for treating neuritis, osteoporosis. Its good stress relieving effect is also known. It also has a vegetative calming effect, which is ideal for mild heart conditions, post-infarction, fatigue, and conditions caused by stress. It is recommended when the blood supply of any organ needs to be improved (Hartmann et al., 1997). It can also be used for diabetes, old-age or hormonal decalcification, and to improve the functioning of the vegetative nervous system. After treatment, rest is recommended (Gomez, 2011).

4.6. MEDIAL MASSAGE TREATMENT (06)

In rehabilitative cure, we apply therapeutic medical massage to the deficit of the social insurance. During the massage, we treat the part of the body, which was prescribed by the physician, with the base grips and holds of the classical Swedish massage. The treatment aims to relax tense, convulsive muscles, to increase blood supply, due to which the muscular pain decreases and the strength of muscles increases. It restores the suppleness of the skin through increasing

blood flow, removes the waste deposited in the bottom layers of the skin, and increases the output of the muscles through improving circulation (Field, 2002). However, it is important to know that it can never substitute remedial exercises.

4.7. UNDERWATER WATER-JET MASSAGE TREATMENT (07)

In everyday language, it is known only as tangentor treatment, although in truth this name refers to the appliance moving the water. During this treatment, the patient lies in a large-sized medical tub (600-800 liter) in a way that the body part to be treated is always under water, while we massage it with a water-jet in a special order. The pressure of water-jet varies depending on the patient's body constitution, the type of disease and the purpose of treatment. The treatment is effective if it is applied with adequate technique. As a result of the combined effect of massage and medicinal water, muscles are relaxed, and worn joints become more mobile. It serves for treating mainly the muscles of upper and lower limbs along the spine. We perform a whole body treatment mostly. This treatment effect is proved (Viitasalo, 1995).

4.8. UNDERWATER GROUP THERAPEUTIC GYMNASTIC TREATMENT (08)

In case of advanced locomotor disorders the musculature may be reduced partly or concerning the whole body. The inflammation returning again and again may result in the contraction of articular capsule and ligaments, which conduce to a limitation of motion. This process may be prevented with doing remedial exercises everyday regularly, but often it is not executable because of the pain. The range of indications is very broad, since it may be necessary in almost every disorders needing rehabilitation. In addition to the abrasive disorders of spinal, shoulder, hip and knee joints it has also an important role in treating inflamed articular diseases (Makovicsné, 1995). It is one of the most important treating methods after replacement surgeries, spinal disc herniation interventions, fractures, ligament injuries and in osteoporosis. However in water of indifferent temperature these joints can be worked out without pain. The convulsive, tense muscles become tensile, and their strength increase. Our patients do underwater remedial exercises in groups of 8-10 people, in a specially equipped pool filled with thermal water, under the guidance of physiotherapists. The treatment is in 3 exercise groups: neck-shoulder, spine and hip-knee groups.

4.9. COMPLEX MEDICAL BATH THERAPY (09)

Complex medical spa therapy services can only be provided with social insurance support at a health service provider providing medical rehabilitation services or at a thermal spa. In case of complex medical spa therapies, medical records are issued by the doctor of the thermal spa/medical provider. The doctors of the providers of complex medical spa therapies are entitled to prescribe medical spa therapy supported by the social insurance when the doctor has concluded a contract with the OEP - National Health Insurance Fund - (today: NEAK - National Institute of Health Insurance Fund Management). In case of prescribing complex medical spa therapy, the required combination of treatment types are defined by the medical specialist of the thermal spa with a total of four treatment types. In the case of complex medical spa therapy the medical specialist of the medical spa document a medical record as well as a treatment report, makes a final report at the end of the treatment where changes in the patient's condition are recorded during the treatment. Complex thermal spa therapies can only be prescribed separately (Gömör-Bálint, 1989).

4.10 GROUP MEDICAL SWIMMING UNDER 18 YEARS OF AGE TREATMENT (10)

In addition to medical spa therapies, therapy swimming in groups under 18 is available with the support of social insurance. Prescribing therapy swimming in groups under 18 is regulated

in details in cases of certain types of diseases. Certain specialists of a disease group and based on the proposal of the specialist, the general practitioner of the child is entitled to prescribe therapy swimming in a group. In the case of spine and chest malformations, chronic obstructive respiratory problems, obesity and its complications, the school doctor is also entitled to prescribe the therapy (Rosimini, 2003).

The prescription is valid for 26 weeks after the start of treatment. The deadline for having the treatment depends on whether the doctor has prescribed one or two treatments at a time. If the doctor has prescribed only one cure at a time then therapy swimming must be started within 90 days of the day of issue. If the doctor has prescribed two cures at a time, then the first cure must be started 90 days within the issue of the prescription, the second cure of therapy swimming must be started within 90 days of the date defined on the prescription. Therapy swimming in groups under 18 is available two times a week (two times a day during school breaks), the cure can consist of maximum 52 treatments and last for 26 weeks.

5. SELF-FINANCED TREATMENT PROTOCOLS

The general procedural conditions and steps for these treatments are the same as those described in the cases of therapies supported by the health insurance fund. The only difference is financing, as these therapies must be paid by the patient to the provider without any support. These therapies involve physical therapy, gymnastics therapy individually or in groups and other „Beauty” massage treatments.

5.1. PHYSICAL THERAPY

In the therapeutic section of the Castle Spa are used modern physiotherapeutic tools. In the field of electrotherapy we have low and medium frequency devices. The best-known forms of treatment are the followings: diadynamic current therapy, iontophoresis with dionin, special galvanic treatments (Bourgignon and Bergonier), four cell galvanic bath, interference, TENS (transcutaneous electrical nerve stimulation) and muscle stimulation treatments such as Russian stimulation and selective current stimulation. Are use various forms of ultrasonic treatments: pulsating, sonodynator, subaqualis. Are have a magneto therapy device that renders help primarily in the after-treatments of traumas. Lymphomat treatment is a slightly used form of treatment, with which we can improve lymph circulation. Consequently, it is well applicable for reducing dropsies, lymph oedemas emerged as a consequence of accidents, surgical interventions, and last but not least also for treating cellulite. By means of the cryotherapy device we can relieve acute inflammatory processes, pains caused by acute neuritis such as acute gouty outburst, pain caused by contusion and strain, sciatica.

5.1.1. GALVANIC FOUR-CELL BATH TREATMENT

The treatment is based on applying a combination of medicinal water and voltaic current on the limbs. The treatment improves circulation and reduces pain. It is mainly used for diseases that affect more than one joints or body areas at the same time (Mucha, 2004). It is an excellent remedy for pains radiating from the neck or the waist into limbs, and for neural inflammation. It is primarily recommended for residual symptoms of neural pain and inflammations, but also, to a lesser extent, for degenerative disorders. The recommended treatment time is 10 minutes.

5.1.2. ULTRASOUND TREATMENT

Micromassage created by mechanic vibrations, which has both chemical and thermic effects. It reduces inflammations, relaxes muscles, relieves pain, dilates blood vessels and promotes epithelisation. It can be used effectively for a tense neck and shoulders, joint wear and small

joint pain in the spine. The recommended treatment time is 3-5 minutes per region (Speed, 2001).

5.1.3. MAGNETOTHERAPY TREATMENT

The magnetic field improves the oxygen supply of the cells, and accelerates the exchange of ions within the cells. As a result of the faster ion migration, waste is excreted sooner, so inflammation and the related pains can be reduced. It is recommended for degenerative diseases, muscle weakness and rigidity, and as after-treatment for injuries. The method is based on the biological effect of a pulsating electromagnetic field, which causes bone generation to increase (Gur, 2006). As the body part in question is not heated up, it can also be effectively used for patients with metal prosthetics. The recommended treatment time is 20 minutes.

5.1.4. DIADYNAMIC TREATMENT

These treatments alleviate inflammations and relieve pain. They are based on delivering a variety of electricity impulses of variable strength and for easily adjusted lengths of time. It is an excellent treatment of chronic pain (various syndromes, tense muscles and some neural pains). The effect is primarily pain relief, but the blood flow is also stimulated. The recommended treatment time is 10 minutes.

5.1.5. INTERFERENCE TREATMENT

The medium-frequency interference current acts at a deeper level. It can be used not only for pain relief and to reduce joint swellings, but also to absorb local oedemas. Combined with vacuum electrodes enhances the effect of the treatment. The recommended treatment time is 10 minutes.

5.1.6. IONTOPHORESIS TREATMENT

Using voltaic current to deliver various medicines and medically active substances through the skin into the dysfunctional body parts. The treatment focus can be local or general: reduce muscle pains, the effects of overexhaustion, arthritis, or accelerate the absorption of oedemas, and softens scar tissue. The recommended treatment time is 10 minutes.

5.1.7. STABLE GALVANIC TREATMENT

Can be used with both descendant and ascendant current. It can be used effectively to treat arthritis and neuralgic pain radiating into arms or legs. The recommended treatment time is 10 minutes.

5.1.8. TENS TREATMENT

The treatment name is abbreviation of Transcutan Electricche Nerve-Stimulation. Stimulates muscles and nerves. Recommended treatment for chronic joint pain, muscle pain, osteoporosis, ischialgia, and reducing neural pain, because it alleviates neural pain, strengthens and relaxes muscles, and accelerates regeneration (Escortell-Mayor et al., 2011). The recommended treatment time is 10 minutes.

5.2. GROUP AND INDIVIDUAL THERAPEUTIC GYMNASTICS

With assistance and supervision from a qualified physiotherapist. Remedial gymnastics is an organic part of a complex physiotherapy programme. Group gymnastics may focus on arms, the neck and the shoulders, the hips, the legs, or the spine. Remedial gymnastics is a special form of movement therapy, which uses various exercises and accessories (e.g. physioball,

dumbbells, fitness band, dynair cushion, wall bars) to restore the original function of a dysfunctional organ or body part.

During individual training, the patient undergoes a tailored therapy with assistance from the doctor so as to restore the original function of a problematic organ or body part. The psychological, constitutional and age characteristics of the patient are also taken into account. Special individual exercises offered: Bobath, Terrier, McKenzie therapy. The efficacy of the therapeutic gymnastic been scientifically proven (Durmus et al., 2009).

5.3. BEAUTY MASSAGE TREATMENTS

The new Beauty Massage Salon provides more than 40 different sorts of massages for guests longing for special enjoyment. The massages are provided in three categories in the same price, thus the guests can choose the most pleasant and effective one to their body and soul. Aromatherapy refreshment massage in 30 or 60 minutes, beauty and special extra massages are also available. Special experience is guaranteed by the “Four handed” or “Massage for couples” services. Some treatments of the great variety of services:

5.3.1. REFRESHING ROSEMARY MASSAGE

The rosemary massage relieves stress having a calming and relaxing effect on the body and is also beneficial for circulation disorders. It grants better mood and harmony. It is a perfect cure for rheumatic complaints and the best treatment after an exhausting day.

5.3.2. „ALMOND ECSTASY”

The massage provides an unforgettable experience and refreshment due to its almond scent. The almond oil improves the resistance and flexibility of the skin, protects against the harmful effects. It has anti-aging effects against the UV rays. The oil is rich in vitamins B1, B2, B6 and E.

5.3.3. „ICE MAGIC MASSAGE”

The special cream containing camphor loosens the exhausted muscles. Its cooling effect eases the pain, at the same time the camphor refreshes and provides energy. It is a perfect treatment for people wishing for refreshment.

5.3.4. SLIMMING LYMPH MASSAGE

The treatment loosens the tough tissues and moves the cellulites. The special massage increases lymph circulation and the metabolism of fat. The flow of the stored fat is diverted to the direction of secretion. The treatment facilitates weight loosing as the cleansing therapy of the body is essential to a successful slimming.

5.3.5. SKIN STRETCHING MASSAGE WITH ALGA

The massage is based on the Swedish method when the tough muscles are loosened by intensive grips. Skin stretching massage cream with alga content is applied which helps in the restoration of the skin flexibility as a result of its richness in vitamins and minerals.

5.3.6. ALOE VERA SKIN MOISTURISING- SKIN REGENERATING MASSAGE

Aloe vera is particularly effective for decreasing inflammation and dermatitis; it also has antibiotic and regenerating effect. Due to these four main characteristic features aloe vera can be applied to every skin type. It provides a wide choice of beneficial effects as it softens the skin restoring its flexibility nourishes the skin surface and delays aging and the pleasant effects of the massage makes the treatment complete.

5.3.7. MANAGER MASSAGE

This massage type is especially favoured by people having sedentary occupations. Besides relieving the though neck, shoulder and back muscles it stimulates blood circulation and the blood supply of the brain. Undressing is not necessary during the massage as it happens without carriers and creams. The patient is settled on a special chair loosening the neck, shoulders and back up. The masseur then loosens up the muscles, making special pressure on the acupressure body parts.

5.3.8. FOUR-HANDED MASSAGE

During the treatment the guest is massaged by two masseurs simultaneously stimulating the relief by soft, waving movements of the hands. Besides the masseurs cooperating in absolute attention and harmony the chosen aroma also takes its effect. The massage is ideal for stress relieving and relaxation for those who wish for exceptional experience or having an extremely busy schedule. The type of the massage can be chosen from the aromatherapy and extra massages by guests.

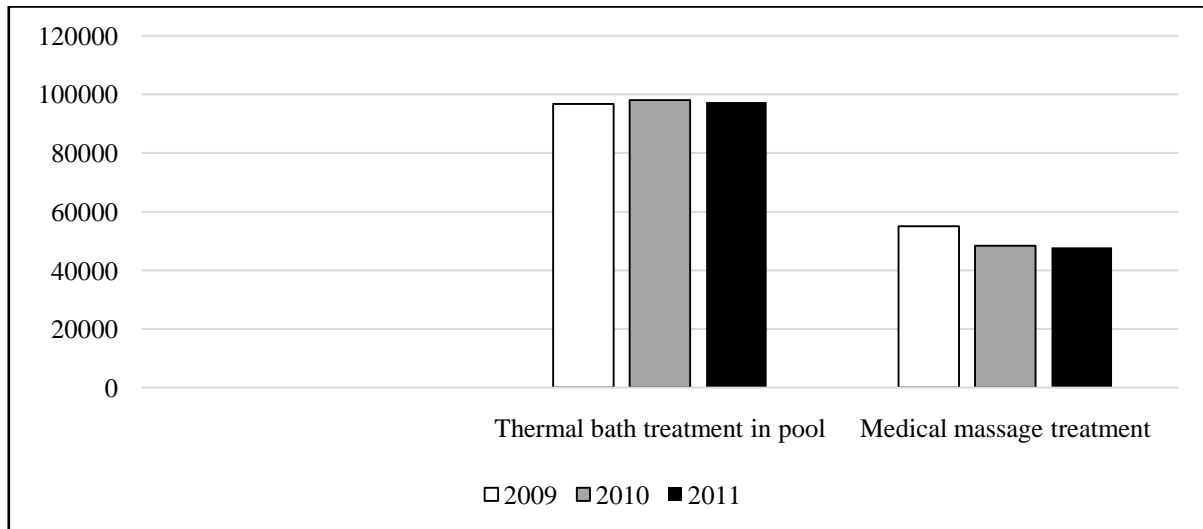
5.3.9. MASSAGE FOR COUPLES

The massage is recommended for couples who want to have a common experience. Two separate beds are provided for the quests settling next to each other. The masseurs treat them simultaneously in great harmony thus the couple can go through this unforgettable experience together at the same time. The type of the massage can be chosen from the aromatherapy and extra massages by guests.

6. CHANGES OF STATISTICAL DATA IN THE NUMBER OF PATIENTS

Based on the treatment summary data handed in by the special assistants, the chief medical officer conducts statistical analysis on the use of therapies performed according to the above mentioned protocol. As a result, it is possible to determine the frequency of the use of the treatments at the thermal spa facility where the survey is performed. The use of the medical spa treatments indicated as the purpose of the study is presented below. A separate figure is used to evaluate the data of the most frequently used therapies supported by the health insurance, such as the data of thermal water pool treatment and therapeutic massage treatment. Another figure shows the description of the data of additional supported thermal spa treatments and the analysis of aggregate treatment data. Among the available treatments in the thermal spa facility where the survey is performed, thermal water pool treatments and therapeutic massage treatments are the most frequently used treatments among thermal spa treatments supported by the Hungarian health insurance (Figure 2).

2. ábra: A leggyakrabban igénybe vett fürdőgyógykezelések megoszlása
Figure 2 The division of the most frequently used medical spa treatments

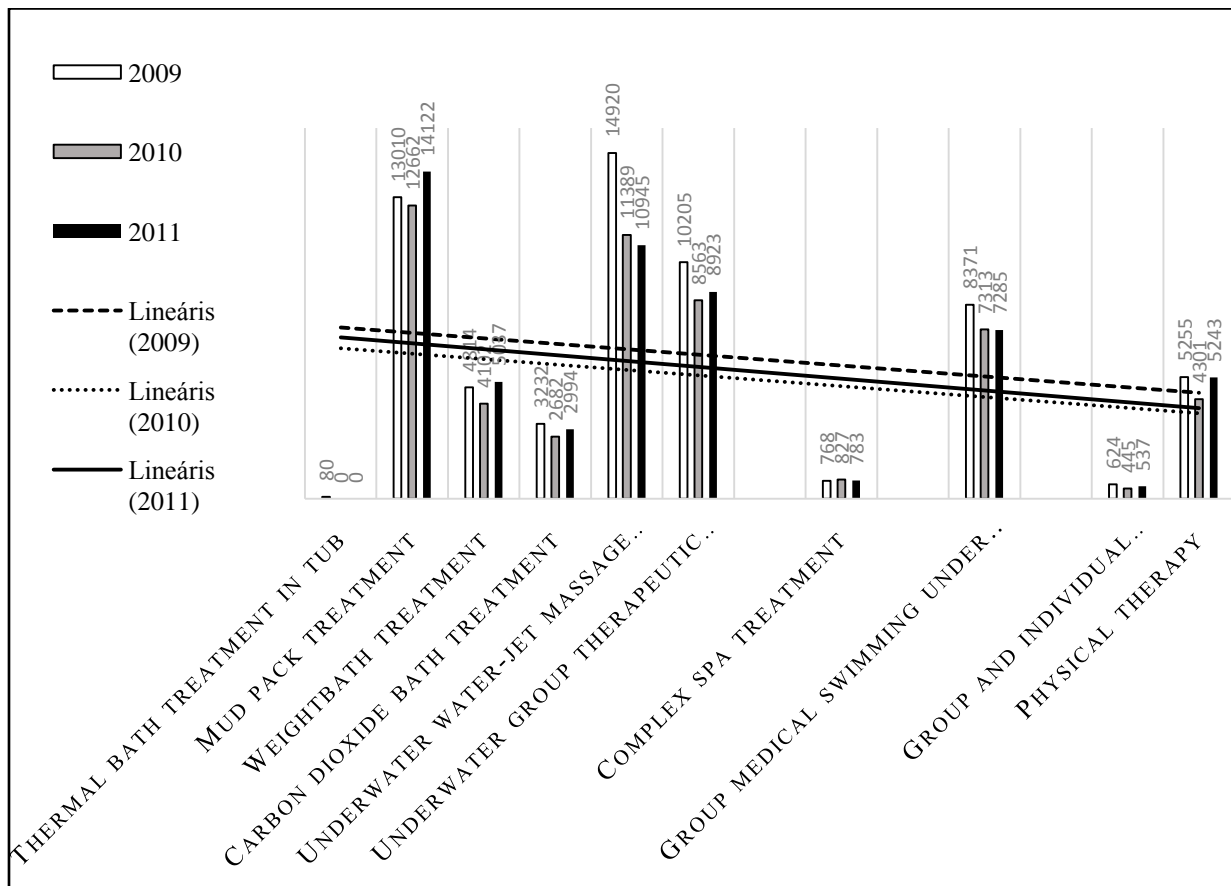


Forrás: Intézményi adatok alapján, saját szerkesztés
Source: Self-edited based on institutional data

During the investigation period the most requested treatment was the thermal water pool treatment in all three years. This treatment was the least common in 2009 and the most common in 2011. The second most common treatment is therapeutic massage. This type of treatment was requested by more than 55.000 people in 2009. This number was constantly decreasing during the investigated three years, reaching 47.837 people in 2011 but it is still the second most commonly used treatment.

Additional therapies supported by the health insurance are being used significantly less times among patients (Figure 3).

3. ábra: Gyógykezelések igénybevételének megoszlása³
 Figure 3 The division of the use of therapies



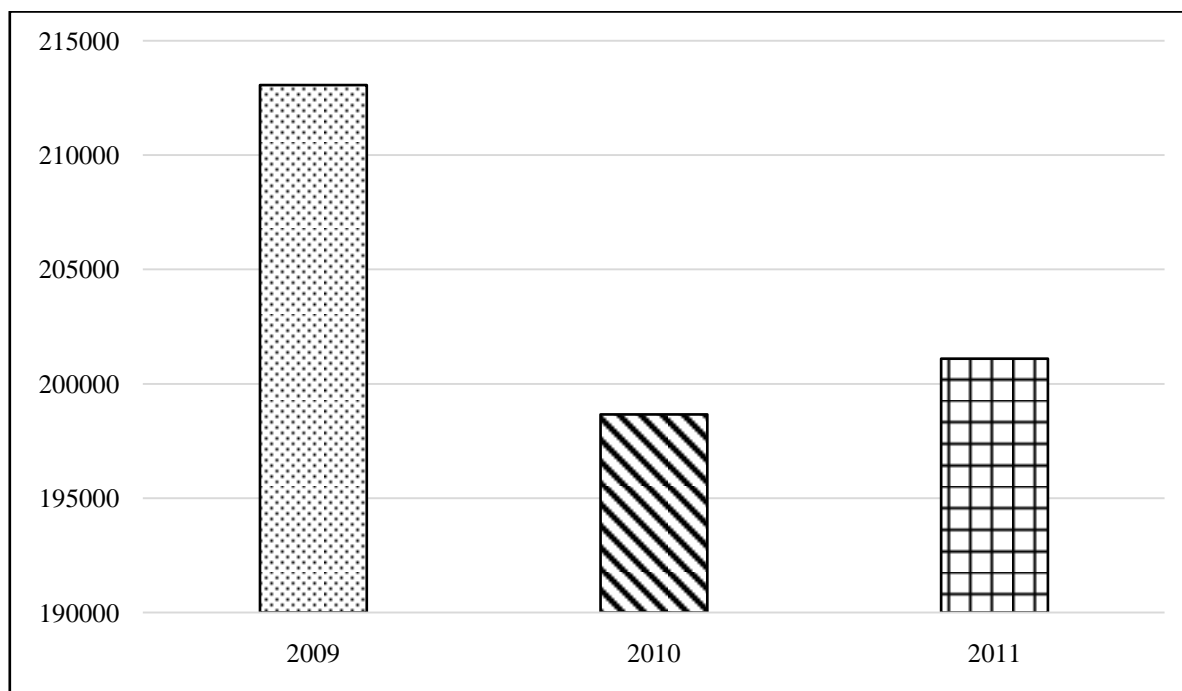
Forrás: Intézményi adatok alapján, saját szerkesztés
 Source: Self-editing based on institutional data

The use of medical spa treatments supported by the health insurance varies widely across the spectrum of treatments according to the number of treatments applied. Based on the data of the investigated period it can be stated that bath tub therapy, complex therapy and gymnastics therapy was used most times among the supported treatments in all three years. These are followed by weight bath, carbonated water therapy and physical therapy. Except for the thermal water pool therapy and therapeutic massage, the most frequently used therapies are therapeutic swimming above 18, underwater therapeutic gymnastics in groups, hydrotherapy underwater massage and thermal water pool therapy. Trend lines clearly show that the use of treatments shows a decreasing tendency in all three years.

The number of supported treatments between 2009 and 2011 was around 200.000 in nationally rated thermal spas (Figure 4).

³ The division of the use of thermal water pool therapy and therapeutic massage is shown in Figure 3.

4. ábra: Gyógykezelések összesített igénybevételi adatai
Figure 4 Aggregated data of the use of treatments



Forrás: Intézményi adatok alapján, saját szerkesztés
Source: Self-editing based on institutional data

In 2009, 213.064 treatments were used with social security support, in 2010 the number of treatments was reduced to 198.663, and in 2011 the number of treatments was increased to 201.101 in the observed institution.

CONCLUSION

There are many types of efficient thermal spa treatments available to patients suffering from musculoskeletal disorders in Hungary, which is well reflected in the broad range of services offered by the observed institute. The study clearly shows that the safety and effectiveness of the national medical spa therapy is based on a number of laws that serve as a basis for uniformity, but also allow for the preservation of the local uniqueness of the health care institution under regulated conditions. The presentation of thermal spa treatment protocols implemented as one of the aims of the study is to regulate these local diversities, thus helping to maintain a stable level of health care.

Another aspect of the study was the use of therapies, which depends on the diagnosis, the stage of the disease, the treatment plan established by the specialist and the patient's needs. By implementing the other objective of the study, differences and tendencies in the use of therapies have been presented during the investigated period. On the basis of the results I suggest to carry out further researches which can contribute to the exploration of the attitudes towards the use of thermal spa therapies among patients suffering from musculoskeletal disorders in Hungary.

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