THERAPEUTIC POTENTIAL OF POLISH BALTIC SPAS

Eugeniusz Rydz, Iwona Jażewicz

Department of Socio-Economic Geography and Touristics,
Institute of Geography and Regional Studies,
Pomeranian University in Słupsk,
ul. Partyzantów 27, 76-200 Słupsk, Poland
e-mail: rydz@apsl.edu.pl

Abstract

The main objective of this paper is to show the therapeutic potential of Polish spas situated on the Baltic coast. The introduction discusses the development and the importance of spa treatment for the present society. The gradual growth of technical civilization has caused major changes in working and living conditions as well as lifestyles and diets of people. It has been emphasized that the new health risks connected with the evolution of technical civilization often have ecological background. In the further part of the article, particular attention has been paid to natural and socio-economic conditions of development of Polish Baltic spas. The paper presents also treatment profiles provided in the spas in question as well as their share in providing medical treatment in the scale of the whole country. It should be emphasised that the potential of Polish seaside spas may be proved not only by spa facilities, treatment profiles and numbers of services provided but also by significantly increasing in past six years number of patients, both foreigners and fully paid natives.

Key words: spa, patient, medicinal materials, Baltic coast, treatment profile, bioclimate

INTRODUCTION

Spa treatment is on one hand one of the oldest areas of medicine and on the other – one of those which gained their full academic foundation only in the 20th century. Until modern times the foundation of spa treatment was broadly understood natural medicine. It was inspired by the principles of folk medicine based on observations and experience, gained not only by doctors. Only the intensive development of research in basic and clinical medical sciences, which occurred in the twentieth century, created a solid scientific basis for the development of health resorts (Straburzyńska-Lupa and Straburzyński 2009).
In parallel with the overall progress in medicine from the mid-twentieth century in the area of European spa treatment, including Poland, there are changes that essentially modified the image of spas, fixed sometime in the diaries and literature. Specific spas democratization meant that among residents in nursing homes began to occur people from almost all social strata. This phenomenon is known as egalitarianism in trips to spas. In Poland and other Eastern Block countries, an additional factor in the development of health resort was the nationalization of spa facilities and the introduction of gratuitous stays in sanatoria awarded on the basis of medical referral. It must be highlighted that the sanatorium treatment plays nowadays an important role in fight against civilization illnesses as it is a natural way of preventing and curing a number of chronic diseases, stimulating natural physiological mechanisms that enforce active participation of the organism, especially its healthy parts, in the assignment and strengthening of disturbed biological functions.

Medicinal waters and mud, climate and connected with it beauty of nature are important factors in combating diseases in the renewal process of health and control of forces of a man living and working in a technological civilization. Spas play also an important role in after-hospital rehabilitation in both diseases and musculoskeletal trauma, as well as after internal illnesses, such as a heart attack or stroke and the treatment of chronic diseases within the scope of all clinical disciplines. Spa treatment is now necessary to continue hospital or ambulatory cure of many sickenesses. Its purpose is not only the treatment of chronic diseases, but also adjusting patients to active life after severe health conditions, maintaining working ability as well as keeping satisfactory state of health. It can be assumed that the role of spas will grow even more, because the main task of health care has become a disease prevention. It should be noticed that numerous Polish spas, and among them seaside resorts, develop and advertise their services with an English slogan “wellness, fitness & beauty”. It is to some extent the ideal combination of health consistent with the World Health Organization, as well as the ancient Greek belief that you should strive for the welfare, efficiency and beauty of the body (Straburzyńska-Lupa and Straburzyński 2009).

Unlike a traditional spa treatment, focusing on rehabilitation of chronically ill patients’ or those being after surgery, spa and wellness offer, which is also provided by Polish Baltic seaside resorts, such as Kołobrzeg and Świnoujście or Ustka, is based on the “philosophy of well-being”. It puts a strong emphasis on wellness, beauty, fitness and emotional harmony of people (Mika and Ptaszycka-Jackowska 2007). Fact that spas are usually situated in the most beautiful parts of a country, a classic example of which are the spas in Polish coastal area, and the fact, that resorts’ facilities are maintained in a good condition and well equipped make people think about the “luxury of spas” and forget about the significant influence that the environment and the conditions of stay of a patient have on the final results of treatment. Vast numbers of working people more and more often devote their holiday to strengthening their health, combining tourism with ambulatory spa treatments. More and more people rightly believe that we should not look to fate, but use all existing opportunities to address our own health.

In view of the generally outlined issues relating to health resorts, the main goal of this paper is to show the potential that exists in this area in the Polish coastal spas.
The article, among other things, pays attention to the natural and socio-economic conditions of spas’ development, medical profiles that they conduct as well as the participation of the Baltic resorts in medical services throughout the country.

NATURAL CONDITIONS OF SPA TREATMENT

The basis of spa treatment is the use of natural methods of healing. In addition to therapeutic materials such as water, gas, and peloid, an important role is attributed to the different environmental factors: climate, vegetation and landscape. According to B. Krawczyk (2009), the human body is constantly influenced by various elements of the atmospheric environment that shape the mood, feeling of heat and even affect health. Their influence has stimulating character and is persistent and complex, although its intensity varies in time and space.

Polish geographical location makes its climate transitional – between marine and continental. It is characterized by significant diversity and changeability, both spatial and time, in the scope of occurring weather conditions. This is the main feature of the Polish bioclimate which is the most apparent at the turn of winter and spring. This variability of climate and bioclimate is caused by instability of the main climate-shaping factors, including solar radiation, the movement of air masses caused by pressure and temperature differences between the counters and the sea. An important climate-shaping factor is also land relief and the distance from water and plant communities.

Taking into account climate-shaping factors on the area of Poland, there are six bioclimatic regions which can be distinguished according to their different stimulating level of weather conditions (Kozłowska-Szczęsna et al. 2002). These are: the climate of the coastal strongly stimulating region, which includes the Baltic coast, lakes region of gently stimulating bioclimatic, north-eastern region of restraint stimulating bioclimatic, the central region of poorly stimulating bioclimatic, south-eastern region of increased thermal stimulating level and foothill and mountain region of strongly stimulating bioclimatic.

Generally, Polish spas due to geographical location can be divided into:
- seaside resorts – located in the distance not bigger than 3 km from the sea shore – 6 spas,
- lowlands spas – located up to 200 m asl – 16 spas
- foothill spas – located from 200 to 400 m asl – 14 spas,
- mountain spas – located from 400 to 800 m asl – 8 spas (Lecznictwo uzdrowiskowe... 2011).

It should be emphasised that bioclimatic conditions of 44 Polish spas are very varied and dependent not only on the region in which they are situated, but also on the local conditions such as land relief, height above sea level or type of vegetation. With regard to the Polish Baltic spas we can talk about high stimulating value of bioclimate in which the decisive role is played by strong winds, causing high values of biological cooling and relatively high intensity of solar radiation in late spring and summer. A specific feature of the climate of the coast is the presence of marine aerosol consisting of crystals of sea salt and iodine, which is caused by the splashing waves.
Optimal conditions for the inhalation of natural marine aerosol occur when the wind blows from the sea and during the fog, while its amount in the air decreases with distance from the coast. Marine aerosol treats not only the respiratory tract, but also lung disease. Under the influence of sea spray, lung capacity increases, which is important especially in case of children. The marine aerosol contain also iodine, which treats thyroid disorders and also reduces skin inflammation and allergic reactions.

A characteristic feature of the climate of the coast is also the type of occurrence of breeze type of winds. These are winds caused by different warming up of the land and the surface of water throughout the day and night. During the day the wind blows from colder sea to warmer land, and vice versa during the night – from fast cooling land towards warmer sea. Indisputable advantage of coastal resorts is, therefore, treatment with factors related to climate and sea water. Thalassotherapy (from Greek word “thalassa” – sea) determining curing values of sea climate was known already in ancient Greece. Thalassotherapy in Poland also has rich traditions because

![Fig. 1. Distribution of spa towns in Poland in 2010](Image)

Source: Lecznictwo uzdrowiskowe... 2011. Own elaboration
first bathing resorts were established at the beginning of the 19th century in: Kołobrzeg (1803), Sopot (1823), Świnoujście (1823), Ustka (1835), Krynica Morska (1840) and Sarbinowo (1842). Many of them have been known as spas for a long time. Polish coast of 524 km has excellent climatic conditions and offers better and better organizational conditions for rest, treatment and rehabilitation. Here are located famous not only in Poland, but also in many European countries, well known and respected spas: Świnoujście, Kamień Pomorski, Kołobrzeg, Dąbki, Ustka and Sopot (Fig. 1). It should be emphasised that they offer valuable mineral treatment waters from own sources as well as peat deposits. These spas, in addition to thalassotherapy, apply other methods of modern physical therapy – first balneotherapy, including treatments with mud baths and in the mineral medicinal waters.

Great importance to the seaside health resort has chemical composition of sea water, its physical and biological characteristics and climate. Sea water is a kind of natural sodium chloride mineral water. Its main components of the cations are sodium, potassium, magnesium, strontium, and anions: chlorine, bromine, fluorine, sulphates and carbonates. Differences in the composition and concentration of the components depend on the sea. It should be noted that the salinity of sea water varies to some extent depending on the season, depth and distance from shore. It also depends on the amount of fresh flowing river water. Baltic waters have a salt concentration of 11‰ in the western part to about 3‰ in the eastern parts. In the zone of the Polish coastal health resorts coastal, it is about 7‰. Salinity, however, is much lower in comparison to the waters of the Adriatic, which is 24-48‰, of Atlantic with the salinity of 30-38‰, the North Sea about 33‰ or 17‰ of the Black Sea (Straburzyńska-Lupa and Straburzyński 2009).

Hydrotherapy treatments using seawater belong to a group of potent stimulating treatments and therefore require careful dosing. The dosage should take into account the overall health of a bather, his sensitivity for cold and heat, current neural excitability, resistance to cold sea baths. Thalassotherapy includes also heliotherapy – sunbathing treatments. Also sun baths should be taken cautiously and in moderation, because they are related to the harmful effects of ultraviolet radiation.

Thalassotherapy conducted in a controlled manner by doctors is a very valuable way of fixing health – wellness speeds, so essential to the health of people living in a technological civilization. This is not to replace in the adjuvant treatments of numerous civilization-connected diseases.

**DIRECTIONS OF TREATMENT IN POLISH SEASIDE RESORTS**

The directions of each resort are defined by the disease groups which are treated there. All treatments plants situated within the resorts are obliged to conduct therapy only in the scope of certain profiles and must fulfil conditions connected with specificity of a particular treatment direction (Ponikowska 2009). Health resort deals with the disease, providing treatment, rehabilitation and prevention of these diseases.

The spa services market indicates a significant change in the demand for therapy of certain illnesses, because of their epidemiology. Therefore, the health resorts seek to orient the treatment for these diseases, to reduce mortality, morbidity and disability.
The introduction of a new direction to the spa treatment is usually at the initiative of its authorities. This demand, addressed to the national consultant in the field of balneology and physical medicine, should be documented stating the conditions necessary for the conduct of the profile, treatment methods and the degree of preparation of appropriate medical staff (Ponikowska 2009). Polish spas currently carry out 18 lines of treatment falling within the competence of the international ICD-10 diseases and largely correspond to the clinical specializations (Ponikowska 2009). These directions were approved by the Regulation of the Minister of Health, dated 13 February 2007 (Journal of Laws of 2007 No 44, item 285). The largest number of therapeutic fields in Poland runs the resorts of Kołobrzeg (11), Świeradów Zdrój (11), Świnoujście (10), Ciechocinek (10) and Wysowa (10). It should be emphasized that Kołobrzeg belongs also to the health resort district with the largest in Poland number of health resort outlets which at the end of 2010 was 27 facilities.

The profiles of individual therapeutic spas will be subject to modification and approval by the Minister of Health, after elaborating treatment rules of the spa. Such a requirement is imposed by the Law on therapeutic spa resorts, health resorts, spa protection areas and spa municipalities of 28 July 2005 (Journal of laws of 2005, No 167, item 1399 with later amendments).

The occurrence of natural medicinal materials in the zone of the Polish coast, not only enabled the creation of six major spas in the country, but also their persistent development through the introduction of new therapeutic directions. The available materials show that among the spas located in the coastal zone, the most developed are: Kołobrzeg and Świnoujście (Table 1). Worth emphasizing is the fact that out of

<table>
<thead>
<tr>
<th>Resort</th>
<th>Traumatic orthopedic diseases</th>
<th>Diseases of the nervous system</th>
<th>Rheumatic diseases</th>
<th>Cardiovascular disease and hypertension</th>
<th>Upper respiratory tract illness</th>
<th>Lower respiratory tract disease</th>
<th>Diabetes</th>
<th>Obesity</th>
<th>Endocrine disease</th>
<th>Osteoporosis</th>
<th>Skin diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dąbki</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kamień Pomorski</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kołobrzeg</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sopot</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Świnoujście</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ustka</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

+ – Direction of treatment
Source: Lecznictwo uzdrowiskowe... 2011. Own elaboration
over 70 towns in Poland with appropriate climate and natural advantages, which potentially can obtain status and become a health resort in the future, 10 are located on the Polish coast and these are: Dziwnów, Jarosławiec, Międzyzdroje, Mielno, Ustrojnie Morskie, Jastarnia, Jurata, Jastrzębia Góra, Krynica Morska and Łeba (Szwichtenberg 2006).

The confirmation of the importance of six resorts located on the Polish coast remained the fact that at the end of 2010 they had a total number of 9 630 beds available to patients, which accounted for 25.5% of their total number in the country. Another measure proving a huge potential of spa treatment facilities located on the coast is the total number of patients which was in the same year 161 970 persons, that is 28.3% of those who used spa treatment throughout the country. By far the largest number of patients benefited from the services provided in facilities located

<table>
<thead>
<tr>
<th>Specification</th>
<th>Beds-state on 31st Dec.</th>
<th>Stationary patients</th>
<th>Patients per days of treatment in thousands</th>
<th>Tips granted in spa clinics</th>
<th>Medical treatments in thousands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total in Poland</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>35 344</td>
<td>550 789</td>
<td>9 315.9</td>
<td>98 333</td>
<td>-</td>
</tr>
<tr>
<td>2010</td>
<td>37 760</td>
<td>572 882</td>
<td>10 010.8</td>
<td>83 261</td>
<td>30 244.5</td>
</tr>
<tr>
<td>Seaside resorts in total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>7 327</td>
<td>117 918</td>
<td>1 906.8</td>
<td>20 133</td>
<td>-</td>
</tr>
<tr>
<td>2010</td>
<td>9 560</td>
<td>161 970</td>
<td>2 467.5</td>
<td>12 417</td>
<td>7 568.1</td>
</tr>
<tr>
<td>In it: Świnoujście</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>934</td>
<td>14 721</td>
<td>266.7</td>
<td>5 906</td>
<td>-</td>
</tr>
<tr>
<td>2010</td>
<td>1 257</td>
<td>21 842</td>
<td>330.1</td>
<td>4 531</td>
<td>2 448.8</td>
</tr>
<tr>
<td>Kamień Pomorski</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>319</td>
<td>4 972</td>
<td>95.4</td>
<td>2 012</td>
<td>-</td>
</tr>
<tr>
<td>2010</td>
<td>456</td>
<td>5 406</td>
<td>106.3</td>
<td>533</td>
<td>366.2</td>
</tr>
<tr>
<td>Kołobrzeg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>4 561</td>
<td>83 458</td>
<td>1 233.4</td>
<td>10 771</td>
<td>-</td>
</tr>
<tr>
<td>2010</td>
<td>5 966</td>
<td>104 396</td>
<td>1 496.7</td>
<td>7 353</td>
<td>3 127.1</td>
</tr>
<tr>
<td>Dąbki</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>698</td>
<td>4 496</td>
<td>93.7</td>
<td>187</td>
<td>-</td>
</tr>
<tr>
<td>2010</td>
<td>7 99</td>
<td>14 155</td>
<td>195.2</td>
<td>-</td>
<td>383.1</td>
</tr>
<tr>
<td>Ustka</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>635</td>
<td>8 215</td>
<td>160.2</td>
<td>1 257</td>
<td>-</td>
</tr>
<tr>
<td>2010</td>
<td>656</td>
<td>9 246</td>
<td>179.9</td>
<td>-</td>
<td>442.1</td>
</tr>
<tr>
<td>Sopot</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>180</td>
<td>2 056</td>
<td>57.4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2010</td>
<td>496</td>
<td>6 925</td>
<td>159.3</td>
<td>-</td>
<td>800.8</td>
</tr>
</tbody>
</table>

Source: Lecznictwo uzdowiskowe... 2011. Own elaboration
in Kolobrzeg (104 396 persons, that is 64.4% of residents in treatment resorts at the coast). Taking into account patients’ group number, they also used willingly the spa facilities in Świnoujście, Ustka, Sopot, Kamień Pomorski and Dąbki (in descending order, see Table 2). In 2010, the spa treatment facilities located on the Polish coast have done 7 568.1 thousand treatments, of which 1 432.9 thousand (that is 18.4% of the total number) accounted for naturopathy treatments. Most of them, 58.6% of such procedures, were performed in Kolobrzeg. A positive phenomenon in recent six years (2005-2010) is constant increase of places available in spa treatment facilities.

Number of beds in the presented health resorts increased by 31.4% with an average of 8.2% for the whole country. The number of spa visitors being treated also increased relatively by more than 37.3%, while in other spa clinics throughout the country the increase was significantly lower, about 4%. Also the number of persons per day increased very significantly in the seaside spa facilities by more than 23.1%, from 1 906.8 thousand in 2005 to 2 467.5 thousand in 2010, with an average increase of 7.4% in the remaining 38 spas across the country. A higher rate of increase in patients’ numbers rather than patients per day in the seaside resorts shows that the average length of bathers’ stay in the health-care centres decreased. This fact can be explained on the one hand with an increased number of more and more popular multi-day stays (often weekends) offered by a variety of spa treatments for strictly medical purposes, but also spa and wellness treatments, on the other hand, with significant proportion of foreign patients, mostly from Germany and Scandinavia, in the total number of patients who generally prefer shorter, two-week stays. The study shows that in 2010 from a total number of 42 205 foreign patients’ staying in Polish health resorts, 26.2 thousand for the principal place of residence chose Kolobrzeg. They accounted for 26.9% of the total number of patients staying on therapy in this city.

Large group of foreign patients’ used also the treatment and preventive care in sanatoria in Świnoujście, it was 8.4 thousand people. In these objects, they represented 38.5% of patients.

The research showed that foreign patients from Germany and Scandinavia evaluated their stay both in Kolobrzeg and Świnoujście very positively. They highly appreciated the quality of waters of the Baltic and its beaches, therapeutic impact of bioclimatic, the quality of green spaces, and existing anthropogenic values. Recognition among foreign patients gained also spa and recreation districts, both in Kolobrzeg and Świnoujście. They appreciated both health and communal services, as well as the quality of catering.

Seaside resorts play a significant role in the treatment of children and youngsters below eighteen years of age. It ought to be remembered that the care of the future of society must start from the care of children’s health.

Available reports of experts say clearly that in Poland the numbers of cases of respiratory problems, diabetes and obesity type 2 increases (Krystosik-Łasecka 2009). When the system of paediatric care does not work properly, it is particularly important to take proper care of prophylaxis of chronic states leading to disability in adult age. Spa treatment, therefore, excellently contributes to the therapeutic and preventive system. Well-planned and carried out treatment allows to improve the health of children. However, it is more expensive than adult treatment. A child must be provided with persistent, all day and night care guardianship, medication, etc. This re-
duces the number of hospitals, health resorts and sanatoria for children, because in terms of commercial companies it is difficult to keep loss-gaining facilities.

Confirmation of this is the fact that while in 2005 children and adolescents under 18 years of age accounted for 16% of patients staying in spa hospitals, creating a group of 23.2 thousand people, in 2010 a group of minors treated in all spa hospitals was 15.4 thousand people, while they share in total number of patients dropped to 10.8% (Lecznictwo uzdrowiskowe... 2011).

The most significant resorts, specializing in treatment of disabled people, are those located in Dąbki and Kołobrzeg. In 2010, in the spa facilities of these resorts there were 7.6 thousand minors, which accounted for 49% of total national number. Wellness facilities in Dąbki (“Dukat”, “Cegielski” and “Argentyt”) together form the second-largest treatment centre of minors in the country, after Rabka-Zdrój. In 2010, there were 5.1 thousand people aged under 18 on medicinal stays in Dąbki, while in the biggest spa of this type in Rabka there were 6.0 thousand.

The specific location of Dąbki over the open sea, at the coastline protruding slightly into the sea, is the reason why the area is rather windy, with the majority of winds blowing from the sea towards the land. The air above the shoreline contains minor amounts of allergens which are carried by strong winds inland. This is particularly important for people with inhalant allergies for whom walks on the beach in windy weather are particularly beneficial. Located in Dąbki centre of spas for young people specializes in treatment of upper and lower respiratory tract diseases (respiratory medicine, ENT) in children aged 3-7 years, staying there under the care of adults.

Establishing a health resort in Dąbki, a quiet and free from impurities location, at the time of worsening respiratory diseases and allergies (especially among children), was the most expedient and right. Successfully treated here are children (36.7% of all the patients), usually during their treatment they stay under the care of their mothers. Common stay of mother with a child eliminates stress of separation, which gives very good therapeutic results. In addition to climatic treatment, spa conducts physical therapy, electrohealing, light treatments and baths. Young spa guests have the opportunity to participate in a rich program of cultural and recreational activities. There are attractive coach sightseeing trips organized around the area, to different locations such as Darłowo, Leba, Kołobrzeg. The trips to Bajkolandia Water Park, Indian Village or cruises on the lake and on the sea are very popular. These events are to enhance minor patients’ stay in the spa during their treatment. Kołobrzeg has a long tradition of specialized spa treatment of children and adolescents below 18 years of age. At the beginning of the 60’s of the previous century, the therapy on the wide scale started to be conducted in two children’s spa hospitals: “Muszelka” and “Słoneczko”. Currently, the 27-day hospital stays in the spa “Słoneczko” are addressed to children with disorders of the upper and lower respiratory tract, skin infections, diabetes, skin diseases (especially allergic) and the pathology of recent years – obesity. In the area of “Słoneczko” spa there is a school implementing the program in the scope of primary and middle school. People on treatment are living in halls profiled by their age and the type of disease. In addition to climatic treatment, there are physical procedures used in the permitted range and children’s developmental and therapeutic exercises in gyms and in the field. Especially for the smallest patients, a special part of a beach was isolated: little resort visitors have
there nurse, teacher and lifeguard service provided. Spa hospital in Kołobrzeg, specializing in children’s treatment, adopted in 2010 over 2.5 thousand patients, that is 31.4% of minors treated in all coastline spas.

In addition to previously presented conditions resulting from the natural environment and the housing base, the potential of the Polish Baltic spas may be proved by the amount and type of treatments carried out here. In 2010, the six Baltic spa facilities performed various treatments. In total, there were 7 568.1 thousand treatments completed. It is about 31.8% of their total number performed in the other spa facilities throughout the country. In the total number of treatments, the therapies of natural medicine contributed to 1 432.9 thousand which makes about 18.4% of their total number. Natural treatments include: mud treatments, which accounted for 33.1% of the total number of natural treatments, mineral baths – with the percentage of 30%, inhalations – 29% and CO₂ baths – 7.9%. In terms of number of natural treatments procedures performed, by far the largest number of them have been implemented in a spa treatment facility in Kołobrzeg (58.5% of total number), followed by Świnoujście (15.5%).

The other four resorts: Kamień Pomorski, Dąbki, Ustka and Sopot, the share was much smaller (Table 3). On average, one person staying at coastal spas used nine natural treatments. The primacy of Kołobrzeg in the scope of offered and realised treatments is connected with medicinal raw materials. Rich source of brine, present in Kołobrzeg, is very precious medicinal raw material. These are highly mineralized sodium chloride, bromide, iodine, boron, and ferruginous waters. Saline at a concentration of 4.2% to 5.9% is used for medicinal baths in tubs and pools, and after dilution to 0.5-1% by inhalation. Second natural medicinal material is mud. This is a low type peat, which has a high biological activity and very good medicinal properties. It contains many biologically active substances, such as: resin, bitumen, humic acids and their salts, amino acids, macro- and microelements. The specific microclimate conditions and natural medicinal resources caused that Kołobrzeg is one of the most famous resorts in the coastal area.

Mildly stimulating sea climate, a rich source of brine, the most beautiful beach of the Baltic Sea, are the main assets of Świnoujście, the second largest resort on the Polish coast. Based on the specific conditions of the microclimate it carries out treatment in ten different profiles (Table 1). Spa in Świnoujście also stands out when compared to other spas in the coastal zone, as well as throughout the country, with a significant number of foreign patients’ that use sanatorium treatment. Third largest resort in Polish zone of the Baltic, taking into account the number of beds in a sanatorium, patients staying for treatment, and persons per days is Dąbki. The undeniable advantages of this small town are: favourable microclimate, charming nature, vast areas of forests full of unique coastal fauna and flora, meadow mud, golden beach, a beautiful lake and soothing calm. Specialized physical therapy helps to treat many diseases and ailments. Treatment is carried out here in six main directions (Table 1). Ustka is another one of well known coastal resorts. Both, spa facilities existing there as well as climatic characteristics of the coast and natural resources which are found there make Ustka one of the potentates in healing of seven profiles including: orthopaedic and rheumatologic diseases, cardiovascular, lower and upper respiratory tract, metabolism illnesses and diseases of the nervous system. They are both naturopathy
The structure of medical treatments in the Baltic spa facilities according to the types of treatments in 2010 (in thousands)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Treatments performed in total</th>
<th>Naturopathy treatments</th>
<th>Other types of treatments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In total</td>
<td>Mineral baths</td>
<td>Baths CO₂</td>
</tr>
<tr>
<td>Total</td>
<td>amount 7 519.8 in % 100.0</td>
<td>1 432.9</td>
<td>415.7</td>
</tr>
<tr>
<td>In it: Świnoujście</td>
<td>amount 2 448.7 in % 100.0</td>
<td>215.3</td>
<td>74.7</td>
</tr>
<tr>
<td>Kamień Pomorski</td>
<td>amount 366.2 in % 100.0</td>
<td>44.7</td>
<td>5.0</td>
</tr>
<tr>
<td>Kołobrzeg</td>
<td>amount 3 127.2 in % 100.0</td>
<td>810.1</td>
<td>278.4</td>
</tr>
<tr>
<td>Dąbki</td>
<td>amount 383.2 in % 93.7</td>
<td>109.4</td>
<td>-</td>
</tr>
<tr>
<td>Ustka</td>
<td>amount 442.1 in % 100.0</td>
<td>130.5</td>
<td>50.6</td>
</tr>
<tr>
<td>Sopot</td>
<td>amount 800.7 in % 100.0</td>
<td>123.0</td>
<td>7.0</td>
</tr>
</tbody>
</table>

Source: Lecznictwo uzdrowiskowe... 2011. Own elaboration
treatments, as well as those from the scope of electrotherapy, physiotherapy, massage, etc. (Table 3).

An important spa function has Sopot, located in over one-million agglomeration of Tri-City. Today, Sopot is a resort and one of the most beautiful Polish cities. It has its own unique atmosphere and climate in a double sense: a great maritime climate with a wide, sandy beach and a spa atmosphere.

A valuable medicinal raw material is salt water, bromide or iodide at a temperature of 18.5°C (Palmowski 2005). The complex of spas in Sopot conducts five lines of treatment. Especially a lot of procedures are performed in the physiotherapy and electrotherapy, together accounting for 56.9% of the total number of procedures performed (Table 3).

The smallest in terms of residence at the premises of a resort is the spa in Kamień Pomorski. But it should be noted that the origins of the spa in Kamień Pomorski date back to the second half of the nineteenth century, when rich source of medicinal waters, commonly called brine, was discovered there.

Nearby deposits of peloids, attractive geographic location and specific microclimate made the city transform into therapeutic and recreation centre, and in 1967 Kamień Pomorski, like Świnoujście and Kolobrzeg, obtained the status of the spa. Spa in Kamień Pomorski carries out five main therapeutic directions (Table 3). The main specialty of the spa is healing of musculoskeletal disorders, early orthopaedic rehabilitation, cardiovascular disease treatment and rehabilitation of women after mastectomy. In the process of healing and rehabilitation spa treatment uses natural materials in the form of iodide-bromide-chlorine brine, and its rich deposits of mud.

The potential of Polish seaside resorts, in addition to a significant proportion in the implementation of natural healing procedures on the scale on the whole country is

Fig. 2. The structure of medical treatments in the Baltic spa facilities according to the types of treatments in 2010
Source: Lecznictwo uzdowiskowe... 2011. Own elaboration
also connected with large number of other types of treatments and therapies, conducted for the patients. The greatest number of them were made in the field of hydrotherapy – 1,556,8 thousand, that is 35.8% of the total number of such procedures performed in other medical facilities throughout the country. Significant was also the share of seaside spas in the implementation of electrotherapy treatments (24.6% of the total number of treatments of this kind in the country), light treatments (22.5%), physiotherapy (16.7%) and treatments grouped as “other” (55.9%).

The research that was conducted shows that the structure of medical treatments that were made in spas located in the coastal zone was clearly diverse, both in the total number of treatments (Fig. 2), and in various spas (Table 3). This phenomenon is associated with the occurrence of certain medicinal qualities and facilities for their use in spa therapy. At the same time it should be noted that the spa treatment is complex. By simultaneous use of several methods of treatment, general efficiency of the therapy may increase. Some combination of methods is particularly advantageous because they complement one another. Such connections include using light, thermal and cryotherapy followed by kinesitherapy treatments (Ponikowska 2009). This phenomenon has thus also a certain influence on the structure of medical treatments occurring at the particular facilities in the presented spas of health resorts. Existing differences in this structure are also caused by the fact that spa treatment facilities located in the resorts are required to operate only within a fixed profile, and that they must meet the conditions associated with its specificity.

CONCLUDING REMARKS

One of the basic functions in the coastal zone, next to holiday resort function and providing service for marine tourism, is spa activity. Medical treatment in Polish seaside resorts is run by healthcare facilities, which include spa hospitals, sanatoria and spa clinics, operating in stationary or ambulatory systems. Health resorts facilities specialize in the treatment of chronic diseases (often referred to as diseases of civilization), spa rehabilitation and prevention.

In Polish Baltic coast resorts there were at the end of 2010 almost 29% of the total number of patients who undertook treatment in spa facilities of the country. The size of the spa base present on the coast and measured by the number of beds available to patients at the end of 2010, may be presented by the fact that they accounted for over 25.5% of the nation-wide size and the share of patients’ using the coastal resorts sanatorium base was over 28.3% of the nationwide value.

Rich natural values of medicinal properties, the presence of mineral springs and unique microclimate make the resorts located on the coast often visited by foreigners, not without reference is their location in relation to other countries, e.g. Germany or Scandinavian countries. A classic example of that remains the fact that in total number of 42.2 thousand foreigners who used Polish spas in 2010, over 85% chose coastal resorts.

The bioclimatic region of coastal properties, the factors related to climate and sea water as well as local medicinal materials, including mud, chloride and iodine water enable conducting spa treatment in a wide range.
Confirmation of the above is the fact that almost 40% of the nationwide number of fully paying guests in the country, so those who choose to spend their own money for therapeutic residence, is connected with spa treatment facility located on the coast. It also demonstrates the prestige of spa sanatoria located here. It should be noted that the Baltic health establishments, particularly in Dąbki and Kolobrzeg, play a significant role for the whole country in the scope of treatment of children and adolescents under the age of 18.

REFERENCES


Liszewski S., 1988. Funkcje osadniczta nadmorskiego w świetle analizy ruchu turystycz-
The potential therapeutic of Polish Baltic spas


POTENCJAŁ LECZNICZY POLSKICH UZDROWISK NADBAŁTYCKICH

Streszczenie

Lecznictwo uzdrowiskowe należy z jednej strony do najstarszych dziedzin medycyny, z drugiej – do tych, które dopiero w XX w. uzyskały pełną podbudowę naukową. Równolegle do ogólnego postępu w medycynie znacznie odmienił się obraz uzdrowisk utrwalony kiedyś w pamiętnikach i literaturze. Swoista demokratyzacja uzdrowisk spowodowała, że wśród mieszkańców sanatoriów pojawiły się ludzie praktycznie ze wszystkich warstw społecznych. Zaznaczyć należy, że kuracja uzdrowiskowa odgrywa ważną rolę w walce z chorobami cywilizacyjnymi, stanowi bowiem naturalny sposób zapobiegania licznym chorobom przewlekłym i ich leczenia poprzez pobudzenie naturalnych mechanizmów fizjologicznych wymuszających aktywny udział organizmu, zwłaszcza jego zdrowych części, w przywracaniu harmonijnego funkcjonowania. Coraz więcej osób słusznie uważa, że nie należy oglądać się na los, tylko w miarę istniejących możliwości zająć się własnym zdrowiem.

Podstawą lecznictwa uzdrowiskowego jest stosowanie naturalnych metod leczniczych. Niepodważalnym walorem uzdrowisk nadmorskich jest zastosowanie za pomocą czynników związanych z klimatem i wodą morską. Kurorty południowej strefy nadbałtyckiej dysponują mineralnymi wodami leczniczymi z własnych źródeł, a także złożami borowiny. W uzdrowiskach tych obok talasoterapii stosuje się też inne metody współczesnej fizjoterapii – przede wszystkim balneologii – w tym zabiegi borowinowe i kąpiele w mineralnych wodach leczniczych.

Potwierdzeniem dużego znaczenia zlokalizowanych na polskim wybrzeżu sześciu uzdrowisk: Dąbka, Kamienia Pomorskiego, Kołobrzegu, Sopotu, Świnoujścia i Ustki jest fakt, że na koniec 2010 r. dysponowały one łącznie 9 630 łóżek, co stanowiło 25,5% ogólnej ich liczby w skali kraju. Kolejnym miernikiem świadczącym o znacznym potencjale uzdrowiskowym, szczególnie w Kołobrzegu i Świnoujściu, która wynosiła w tym samym roku 161 970 osób, tj. 28,3% korzystających z lecznictwa uzdrowiskowego w całym kraju. Zdecydowanie największa liczba pacjentów korzystała z usług świadczonych w 24 obiektach w Kołobrzegu (104 970 osób), tj. 64,4% kuracjuszy przebywających w zakładach leczniczych na wybrzeżu.

Pozytywnym zjawiskiem ostatnich sześciu lat (2005-2010) jest sukcesywnie zwiększenie ilości miejsc w zakładach leczniczych, co sprzyja wzrostowi liczby kuracjuszy oraz wykonywanych zabiegów. Powiększa się także liczba kuracjuszy zagranicznych. Docelowym miejscem pobytu pacjentów z Niemiec i krajów skandynawskich są głównie Kołobrzeg i Świnoujście. Z badań wynika, że uzdrowiska nadmorskie, szczególnie Dąbki i Kołobrzeg, odgrywają również bardzo ważną rolę w leczeniu dzieci i młodzieży w wieku poniżej 18 lat. W 2010 r. w tych miejscowościach przebywało łącznie ponad 7,6 tys. osób, co stanowiło prawie 40% wielkości krajowej. Obok wzmocnienia zaprezentowanych uwarunkowań wynikających ze środowiska przyrodniczego, o potencjale polskich uzdrowisk nadbałtyckich świadczy ilość i rodzaj wykonywanych tu zabiegów leczniczych. Zdecydowany prym w ilo-
ści wykonywanych zabiegów przyrodoleczniczych wiedzie Kołobrzeg, co ma związek z występującymi tu surowcami leczniczymi. Wyniki badań wskazują, że struktura zabiegów leczniczych, jakie wykonywane były w uzdrowiskach położonych w strefie nadmorskiej była wyraźnie zróżnicowana zarówno w ogólnej liczbie zabiegów, jak i poszczególnych uzdrowisk.