

*Molnar Elisabeta Ilona – Gulyas Greta –
Printz-Markó Erzsébet*

The Role of Therapeutic Salt Resources in the Health Tourism in Transylvania



Summary

The paper aims to present the therapeutic salt resources in the region of Transylvania, as well as their health benefits and their role in health tourism. An important part of the tourism industry, health tourism, stands out for one particular reason, starting from balneary and climatic spas to the diversified forms of wellness. The importance of health tourism, developing this sector due to the existence of appropriate natural resources as well as the prospects in this domain are the theoretical framework of this paper. The primary research investigates the tourist destinations in Transylvania with salt therapy resources, in addition to the motivation and demand for these. The findings of the research highlight the availability for travel to destinations with salt resources, willingness to spend, travel motivation to benefit from the therapeutic effects of salt, or simply put, travel to prevent disease, strengthen immunity with the help of this ancient natural potential: Salt.

Journal of Economic Literature (JEL) codes: Z32, Q25, Q26, P46

Keywords: health tourism, natural healing resources, therapeutic salt resources, salt water

DR. MOLNAR ELISABETA ILONA PHD, associate professor, Partium Christian University, Oradea, Romania (elis@partium.ro), GULYAS GRETA, PhD student University of Szeged, Doctoral School in Economics, Szeged, Hungary (gulyas.greta@partium.ro), DR. PRINTZ-MARKÓ ERZSÉBET PHD, associate professor, Széchenyi István University, Tourism Department, Hungary (printz-marko.erzsebet@sze.hu).

INTRODUCTION

The importance and role of wellness and spa tourism has recently returned to the fore in the global travel market, given its increasing recognition and growing as an important topic of scientific research.

According to the Constitution of The World Health Organization, “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” and “The extension to all peoples of the benefits of medical, psychological and related knowledge is essential to the fullest attainment of health” (WHO, 2020)

The state of health of a nation is the most essential factor on both social and economic levels. The existence of natural resources with possibilities of natural treatment is a blessing for the population of any particular area, providing the possibility of treatments that may prevent certain illnesses.

In the report launched by UNWTO – World Tourism Organization and ECT - European Travel Commission, we can find the definition: “Health tourism covers those types of tourism which have as a primary motivation the contribution to physical, mental and/or spiritual health through medical and wellness-based activities” (UNWTO, ETC, 2018)

The availability of natural resources as a determinant factor in decision making for health tourism, and this type of tourism is more and more in the center of attention of researchers in the field.

Water-based therapies are recognized as a regulated form of medicine, with government support and medical reimbursement. Water still plays an important role in health tourism, although recognition and financial support varies in some countries. The quality of thermal and medicinal waters is subject to scrutiny by governmental authorities, with strict clinical tests, and accreditation is carried out by government (Smith–Puczkó, 2016).

LITERATURE REVIEW

Applying thermal and medicinal mineral water is not a recent phenomenon. Hippocrates also used them in treatments. He believed that the balance of bodily fluids is the root of well-being. For the treatment of lack of balance, he often advised a change of habits and environment. Among these changes were things such as going to spas, walking, massage, and stimulating sweating. Hippocrates promoted the use of saltwater spas; not only that of lakes but also the sea. He indicated them in treating muscle pain, joint pain, and arthritis (Harris, 2010).

Water is a recurring element in health treatment. It was in ancient Egypt, where the Nile was both a sacred place and a significant component of agriculture. Also, in Hindu society, the Ganges plays a significant role in the community even to this day. Water was applied in health treatments by The Romans too, who were one of the major civilizations relevant in the history of spas in Transylvania (Keller et al., 2021). In the heyday of Roman spa tourism, the possibility of medical treatment lured the general public to the thermal baths - *thermae*, here the emphasis was placed on the enjoyment of the spa, on luxury, on the large spa complexes.

In the spas - balnea, the emphasis was on health, treatment, and the primary marketing tools of the spas were the spa doctors (Aupert, 1993).

Health tourism continues to play a pivotal role not only historically, but also in contemporary times. The importance of health, medical, wellness and spa tourism has been on the rise again in the global travel market in recent years. While the expression “wellness tourism” is relatively new in Western society, activities and establishments promoting a healthy lifestyle have been present for centuries. For example, Japanese travelers have had frequent hot water springs for therapeutic reasons for over 1,500 years. Also, people have been visiting the Dead Sea for its qualities. The Romans traveled to spas and hot water springs due to their health and spiritual rituals (Global Wellness Institute, 2013). One of the recurring elements of spa tourism is saltwater, the presence of salt lakes, and the ability of locals to utilize these for touristic purposes (Rus et al., 2020).

One of today’s growing problems at a global scale is stress and fatigue from increasingly fast-paced lifestyles. Today’s modern society is faced with overuse, jobs are characterized by a lack of physical effort, all of which are in contradiction with a healthy lifestyle. Another significant aspect is work addiction. A possible solution to this problem can be found in health centers, wellness centers and even spa resorts (Dinu et al., 2010). The stress-reducing effect that water and nature have on the human body has been recognized since ancient times. Persians, Chinese and Greeks have long recognized this positive and beneficial effect of water (Cooper Marcus-Barnes, 1999).

The quality of water is determined by taking into account the physical, chemical and biological parameters. These parameters are permanently used for the maintenance of water quality depending on the destination: drinking and food, agriculture, baths, etc. (Vasistha-Ganguly, 2020).

Regarding the categorization of salt waters, in the initial stage, two main categories can be defined: sea waters (the ocean) and epicontinental (inner surface) salt lakes (Williams, 2002). In this study, the Transylvanian salt lakes and their tourism potentials will be examined.

“For salt lakes, salinity is best defined as the sum total of all ion concentrations...” (Williams-Sherwood, 1994:53) According to the specialized literature in the geoscientific field, water salinity is classified as fresh water < 3%, saline 3–35%, hypersaline > 35%. In the same region, we often find lakes with a very different salt and ion composition. However, endogenous and autogenous minerals are found in different forms (Last, 2002).

The formation of salt lakes has a similar scenario for the most part. Due to mining, salt-karst collapsed in given areas, and thus, water was collected, which led to intensive salt melting. Salt concentration in these waters is often higher than the average sea salt concentration of 35g/L, generating a high saline solution (Tugyi et al., 2016).

A salt lake is a body of water surrounded by dry land, where many types of salt (especially sodium chloride) accumulate, and the concentration of dissolved salt is high, more than 24,7g/l, in the case of most lakes. The salt originates either from earlier sea sedimentation or the salinity of rocks forming the water catchment area (Gastescu, 2000).

Another characteristic is the stratification of saltwater, which means that salt concentration decreases from the bottom of the lake toward the surface due to dissolution. Sweet water

supplies that are present even in the form of precipitation contribute to stratification and low salt concentration of the water on the surface. Stratification has another interesting feature, namely the lower layer of water with a high concentration of salt does not mix with the surface water with a lower concentration of salt, forming a kind of transition layer. In this layer, an opposite effect can also be observed - although it is not thermal water, the temperature is still higher (Labrenz et al., 1998).

The applicability of water in health tourism, as well as its role, is contingent upon various properties, such as size, depth, chemical composition, sediment formation, and ecology, which collectively determine its suitability and curative role (Farajzadeh–Matzarakis, 2012).

Additionally, salt holds a significant role in the economic and social development. From this point of view, Europe can be considered one of the continents characterized by the most favorable circumstances, as its repository abundant in naturally occurring salt resources propel it high into the forefront. One of the largest deposits in Europe is located in Transylvania.

The Transylvanian Basin formed toward the end of the Cretaceous Period, at the beginning of the Paleocene Epoch. During subsidence processes, on the edge of the Basin, the Carpathian Mountains were formed. The centuries-old, even Millennia-old salt mining contributed to the formation of salt lakes. Thus, they are considered anthropic salt lakes (Sorocovschi, 2008).

In the Transylvanian Basin, salt lakes can be found on its entire territory. In these regions, there are 41 lakes altogether either on the surface or in former underground mining areas and even on surface mining areas (Alexe–Serban, 2014). In view of the development of health tourism based on natural resources, a spatial investigation plays an important role, research in this sense being primordial (Hojcska–Szabó, 2021).

The area rich in natural healing factors led to the creation of historical spas, such as the ones in Sovata, Ocna Sibiului, Ocna Mures, Turda, Cojocna, Sangeorgiu de Mures, Jabenita and Bazna. The 20th century can therefore be dated to the age when the explosive growth of modern treatment facilities and the accommodation facilities connected to them took place (Vais, 2009).

The lakes around Ocna Dej, Săcălaia, Sic, Gădălin, Cojocna, and Turda, Jabenita, where salt mining date from the Dacian and Roman times, formed as a result of precipitation or from water accumulating in the salt mine, and the water's quality is determined by the diapiric structure. The lakes in the Cojocna area formed after the closure of the salt mines in the years 1850-52 (Sorocovschi, 2008).

Saltwater from the salt lakes of Ocna Sibiului, Ocna Mures and Ocna Sugatag can be used both internally and externally. Due to the climate on the surface, they can be inhaled as well. However, they are also useful in external treatment to treat rheumatic, post-traumatic, neurological, joint, cardiovascular, and gynecological disorders. But in addition to the salt concentration, the temperature and chemical composition of the water also affect its curative properties. Water of increased temperature can result in rapid blood circulation throughout the body, especially in stiff muscles, followed by the water relaxing the muscles (Salameh, 2022).

Besides the salt water, the medicinal mud in the lower layers of the salt lakes can also be used for curative purposes. Salt lakes in Transylvania that have such potential are found in Sovata and Ocna Sibiului, Geoagiu Băi, Turda, Bazna and Imeni-Covasna (Hotărâre nr. 571, 2019). The mud is applied externally as beauty masks or mud baths, and has therapeutic effects like absorbing toxins, cooling and relaxing the body. It also relaxes the muscles and improves blood circulation, reduces inflammation, relieves pain, and last but not least can help with skin disorders (Smith–Puczkó, 2016).

Salt in Transylvania has a determining factor, both in the presence of salt lakes and salt caves. Some of the geomorphosites include the salt mine at Praid, Dealul Sării [Salt Hill], and Rezervația Munetele de Sare [The Mountain of Salt Reserve] (Irimus et al., 2011).

Transylvania is also an excellent choice due to the salty microclimate. Some of the destinations to be found here are the Praid and Turda spas, which are beneficial in treating various respiratory problems. Another possibility that also holds an economic potential is the distribution of salts and bath salts, whereby travelers can take home a piece of the local medicinal factor (Printz-Markó–Molnar, 2020).

The external use in balneotherapy treatment of salt water has many health-improving effects, as supported by the table above, as well as many examples of the literature. Natural salty mineral water is extremely often used, for example, in the case of post-traumatic, rheumatic, degenerative and inflammatory locomotor diseases, as well as in the relief and treatment of peripheral and central neurological disorders and functional and inflammatory gynecological diseases. Cold salt baths (e.g. in salt ponds) are a huge help in alleviating locomotor complaints (e.g. physical therapy and therapeutic swimming) and in improving circulation problems (Berlescu, 1975). It also affects your digestive system, whose effect is mostly influenced by the mineral content. For example, hypertonic waters have an irritating effect on the intestinal mucosa, while they cause hyperperistalsis and a cleansing effect (Munteanu–Munteanu, 2012). Notwithstanding its curative effects, in some cases, the relaxing effect of salty or saline water also appears, as a sedative possibility in some destinations. All this only further increases the demand of health tourists for a natural healing agent that is so versatile and improves human health in so many ways.

Health tourists' motivation to set off to such destinations is often to improve their mental, physical and spiritual well-being. Beauty, regeneration and stress reduction are among the various motivational factors that make these travelers choose a particular destination (Chang–Beise-Zee, 2013). Nevertheless, it assumes paramount significance to distinguish between different areas of health tourism, such as medical tourism and wellness tourism. While the treatment of existing health issues is the main motive in medical tourism, in wellness tourism health care services focused on prevention come to the fore (Pessot et al., 2021). Health tourism can be defined as one of the most dynamically growing segments, which partly responds to the demographic changes of the population (aging society), the need for stress reduction among active workers, the promotion of health improvement services that offer preventive and often alternative medical treatments, and the need for travel possibilities, which are focused on unique experiences (Laesser, 2011).

Facilities that offer medical and wellness services are important sources of revenue for

hotels, resorts, and other destinations alike (Trihas–Konstantarou, 2016). Spas used to be a standard and expected facilities of mainly luxury hotels and resorts, filling in a former gap. Nowadays, however, it is less of a luxury commodity and more of an almost standard requirement (Cohen, 2008). Tourists are looking for medium prices and, at the same time, high qualification levels of therapists, good expertise, and privacy (Kucukusta–Guillet, 2014).

The medicinal properties, triggered by the various forms of salt manifestations, the therapeutic potential of these waters represent an important tourist attraction, but also an opportunity for investors. However, besides the economic possibilities, one cannot disregard the sustainable exploitation of natural resources. Therefore, planning must have the principles of touristic and ecological sustainability in view (Alexe–Serban, 2014).

Tourism has always been a sensitive branch of industry due to natural disasters and situations that may be a risk to personal safety or health (Cro–Martins, 2017; Estevao–Costa, 2020). As a result of the epidemiological situation, tourism has experienced an increased appreciation process that prioritizes hygiene, disinfection, personal safety, and therapeutic benefits. As a reaction to this situation, the market has responded by proposing novel, targeted health and safety protocols (Ivanova et al., 2021).

As far as future developments are concerned, it must be taken into consideration that any action plan targeting the local specificity must be formed together with the leaders of the given settlement. As one of the examples mentioned above shows, all that the health resort can offer should be connected, including saltwater, culture, history, wine, and gastronomy, along with nature and sports; thus, a competitive product/service package is offered through the complex offer of local specificity (Keller–Printz–Markó, 2020).

It must be taken into account that this is an extremely susceptible and consumable natural factor that may be influenced negatively by heavy tourist traffic. An attempt to tackle the issue to a certain extent are the regulations at Lacul Ursu, where tourist traffic is limited, and bathing is restricted for a few hours every day, needed for the lake to regenerate.

METHODOLOGY

The study aims to present the existence of the Salt Lake and therapeutic salt resources in the Transylvanian territory, its importance as a destination with salt resources, motivation and travel plan for this destination. The inventory of important Salt Lake destination was presented based on the literature review arising in national and international studies. The primary research is based on questionnaires distributed online that yielded 195 validated responses. The data were collected in the period of October 2022 to March 2023, and the results were processed with the IBM SPSS 25 program. The study considers several points:

- Overview of the salt lakes in Transylvania;
- The main motivation for choosing destinations with salt potential;
- Requests from tourists to travel to destinations where salt is present, before, during and after the SARS-CoV-2 pandemic period;
- Availability in terms of expenses and period for these salt water destinations.

RESULTS AND DISCUSSIONS

The secondary research points out the natural salt resources as healing factors, as well as the salt water and destination territory dispersion in Transylvania.

Considering the benefits of salt water, over time, a series of spa resorts have been built that offer tourists the health improvement services provided by salt water (Kovacs, 2019). These salt lakes offer numerous possibilities for tourist destination development.

The attractive element is not the origin of the lake but the composition of the water, i.e., because they are rich in salts, and some of them contain mineral water with therapeutic effects (Popescu, 2012). The county council and local tourism organizations have also recognized the potential inherent in salty destinations, and thus, for example, they created a bicycle tourist route. The route connects Sângeorgiu de Mureș, the Hills of Nirajului, Sovata, and Praid to bicycle routes as well (Ciangă et al. 2010). It has a great potential due to being environment-friendly and because it offers the possibility to utilize the therapeutic factors of the surrounding nature. At the destinations mentioned above, both water and salt have enormous therapeutic factors. The curative effects of salt water can be found in their use in the treatment of degenerative diseases or treatments following accidents and traumas (Rus et al., 2020).

In the case of the Transylvania region, it can be concluded that the territory is rich in salt water as an important healing factor for different diseases (Table 1).

Table 1. Balneary destinations with salt water, and their therapeutic effects

	Balneary destination with salt water	County	Cardiovascular disease	Rheumatism	Posttraumatic of the locomotor system	Gynecological	Respiratory	Sedative / relaxation	Neurological disorders	Endocrine disorders	Digestive and Renal Diseases	Asthenic neurosis	Dermatological
Destinations with hypotonic, isotonic or slightly hypertonic complex mineral springs, indicated in the internal cure	Baile Herculane	Bistrita Nasaud	x	x	x	x			x		x		
	Sangeorz Bai	Bistrita Nasaud			x		x		x		x		
	Covasna	Covasna	x						x		x	x	
	Baile Tusnad	Harghita	x						x	x	x		
	Buzias	Timis	x						x		x	x	
	Bixad	Satu Mare							x		x		

	Balneary destination with salt water	County	Cardiovascular disease	Rheumatism	Posttraumatic of the locomotor system	Gynecological	Respiratory	Sedative / relaxation	Neurological disorders	Endocrine disorders	Digestive and Renal Diseases	Asthenic neurosis	Dermatological
Destinations with concentrated salty mineral waters from underground pools (some also sulphurous, iodized or thermal)	Ocna Mures	Alba	x	x	x	x	x	x	x	x	x	x	x
	Someseni	Cluj	x	x	x			x		x			
	Cojocna	Cluj	x	x	x	x	x		x				
	Ocna Dej	Cluj	x	x	x	x	x						
	Turda	Cluj		x	x	x	x		x		x		x
	Praid	Harghita	x	x	x	x	x		x				x
	Ocna Sugatag	Maramures	x	x		x			x				
	Baile Costiui	Maramures				x			x				
	Sovata	Mures	x	x	x	x		x					
	Sangeorgiu de Mures	Mures			x	x	x				x		
	Jibou	Salaj		x		x					x		x
	Ocna Sibiului	Sibiu	x	x	x	x	x	x	x				x
Bazna	Sibiu		x	x	x			x					

Source: *Holáróre [Decision] nr. 1154/2004, authors own edition*

Regarding the primary reason for travel to “salt destinations”, the research results show that it is to cure respiratory problems and to strengthen the immune system. Treatment of immune system problems is an important motive for 14.9% of respondents, while eliminating, reducing or healing respiratory problems is an important motive, too.

Table 2. *Reasons for treatment where the main factor is salt*

	Frequency	Percent	Valid Percent	Cumulative Percent
respiratory diseases	74	37.9	37.9	37.9
bronchial asthma	14	7.2	7.2	45.1

	Frequency	Percent	Valid Percent	Cumulative Percent
asthmatic bronchitis	11	5.6	5.6	50.8
chronic respiratory tract infections	7	3.6	3.6	54.4
repeated respiratory infections	9	4.6	4.6	59.0
tonsillitis	3	1.5	1.5	60.5
sinusitis	13	6.7	6.7	67.2
allergies	10	5.1	5.1	72.3
pneumonia	2	1.0	1.0	73.3
low immunity	29	14.9	14.9	88.2
peripheral circulatory system	4	2.1	2.1	90.3
skin conditions: eczema, atopic dermatitis	2	1.0	1.0	91.3
others	17	8.7	8.7	100.0
Total	195	100.0	100.0	

Source: Authors' own research.

In addition to the treatment of the above-mentioned areas, for example, bronchial asthma treatment affected 7.2% of respondents, sinusitis 6.7%, asthmatic bronchitis 5.6%, and allergy 5.1% in finalizing one's travel decision and choosing a destination so far.

Surprisingly, the role of salt water is little associated in the treatment of dermatological diseases, although in Transylvania, there are destinations (Table 1) where salt water is recommended for treating these kinds of diseases.

What are the motivations that can drive health tourism travelers? Before evaluating the table below, it should be noted that a 5-point Likert scale was used for this issue. According to the answers received, the highest proportions of natural healing factors were evaluated by the respondents, followed by the improvement of the state of health with a small difference, and then the set of complex services offered by the specialists.

The present research shows that travel motivations primarily come from attractions and offers based on salt resources, and their incorporation into natural therapeutic treatments. At the same time, health improvement practices and the availability of complex services offered by specialists are ranked as additional factors.

Table 3. *Health tourism motivation*

	N	Minimum	Maximum	Mean	Std. Deviation
Improving health	195	1	5	3.74	1.251
Wellness	195	1	5	3.11	1.375
Cosmetics	195	1	5	3.10	1.343
Anti-stress programs	195	1	5	2.62	1.219

	N	Minimum	Maximum	Mean	Std. Deviation
Natural healing factors	195	1	5	4.08	1.135
Complex services offered by specialists	195	1	5	3.60	1.253
Spending free time	195	1	5	3.27	1.340
Valid N (list-wise)	195				

Source: Authors' own research.

The questionnaire-based research analyzes the availability for travel to “salt” destinations, travel plans, domestic or abroad, pre-, during and post-pandemic period SarsCov2, period of stay, income and availability of expenses, as well as the education level of respondents.

Regarding the medical use of salt and the mobility of travelers to such services domestically or abroad, in line with the answers, it is found that the highest demand is for domestic destinations. 152 respondents from a total of 158 wish to travel in the future, and out of this, 63.82 % prefer the domestic destination, while only 3.95 % choose to travel to destinations abroad. 32.23 % prefer both variants.

Table 4. Travel to salty places after the pandemic period, to destinations where salt is the main motivation

Variable 10		Variable 11. travel domestically or abroad			Total
		domestic	abroad	both	
Travel to salty places after the pandemic	yes	97	6	49	152
	no	3	0	3	6
Total		100	6	52	158

Source: Authors' own research.

For a complex analysis, the Pearson correlation was used with the variables presented below.

Variable:

V1- traveled where you benefited from the effects of salt (treatments)

V2- traveled to salty places before the pandemic

V3- traveled to salty places during the pandemic

V4- travel to salty places in the future

V5- if yes, domestically or abroad

V6- spend on accommodation for one night

V7- period of stay

V8- monthly income

V9- education

Table 5. Correlations

		V1	V2	V3	V4	V5	V6	V7	V8	V9
V1 Traveled where you benefited from the effects of salt (treatments)	<i>r</i>	1	.453**	.191**	.299**	-.066	-.002	-.316**	-.103	-.117
	<i>p</i>		.000	.007	.000	.409	.974	.000	.152	.102
	<i>N</i>	195	195	195	195	158	195	195	195	195
V2 Traveled to salty places before the pandemic	<i>r</i>	.453**	1	.148*	.090	-.140	-.061	-.218**	-.062	-.054
	<i>p</i>	.000		.039	.212	.080	.397	.002	.386	.456
	<i>N</i>	195	195	195	195	158	195	195	195	195
V3 Traveled to salty places during the pandemic	<i>r</i>	.191**	.148*	1	.189**	-.027	-.033	-.225**	.020	.052
	<i>p</i>	.007	.039		.008	.739	.642	.002	.783	.470
	<i>N</i>	195	195	195	195	158	195	195	195	195
V4 Travel to salty places in the future	<i>r</i>	.299**	.090	.189**	1	.065	.016	-.118	.094	.070
	<i>p</i>	.000	.212	.008		.419	.825	.102	.192	.331
	<i>N</i>	195	195	195	195	158	195	195	195	195
V5 If yes, domestically or abroad	<i>r</i>	-.066	-.140	-.027	.065	1	.277**	.082	.169*	-.029
	<i>p</i>	.409	.080	.739	.419		.000	.308	.034	.717
	<i>N</i>	158	158	158	158	158	158	158	158	158
V6 Spend on accommodation for one night /person	<i>r</i>	-.002	-.061	-.033	.016	.277**	1	.201**	.353**	.114
	<i>p</i>	.974	.397	.642	.825	.000		.005	.000	.114
	<i>N</i>	195	195	195	195	158	195	195	195	195
V7 Period of stay	<i>r</i>	-.316**	-.218**	-.225**	-.118	.082	.201**	1	.380**	.292**
	<i>p</i>	.000	.002	.002	.102	.308	.005		.000	.000
	<i>N</i>	195	195	195	195	158	195	195	195	195
V8 Monthly income	<i>r</i>	-.103	-.062	.020	.094	.169*	.353**	.380**	1	.560**
	<i>p</i>	.152	.386	.783	.192	.034	.000	.000		.000
	<i>N</i>	195	195	195	195	158	195	195	195	195
V9 Education level	<i>r</i>	-.117	-.054	.052	.070	-.029	.114	.292**	.560**	1
	<i>p</i>	.102	.456	.470	.331	.717	.114	.000	.000	
	<i>N</i>	195	195	195	195	158	195	195	195	195

r: Pearson correlation;

p: Sig (2-tailed) **Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level

Source: Authors' own research.

To the question that clarifies the preferred travel destination before, during and after pandemic period, the answer highlights salt as the healing factor; saline caves and salt lakes

are preferred. Examination of this issue revealed that the Pearson correlation coefficient shows a less than significant relationship with a value of .189 ($r = .189; p < .050$, value: .008).

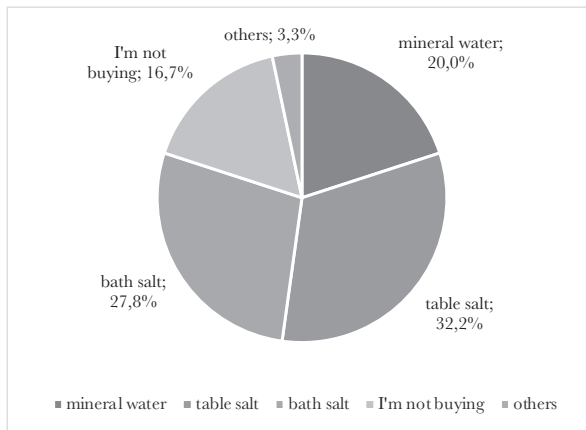
To test that income and travel periods are related, examining this correlation coefficient may be important. The table above also shows that there is a positive relationship between these two points, with a Pearson correlation coefficient of .560, indicating a moderately strong positive relationship ($r = .560; p < .050$, value: .000).

The second strongest relationship between income and willingness to spend on accommodation is the Pearson correlation coefficient of .353, which indicates a stronger-than-average relationship ($r = .353; p < .050$, value: .000).

One of the strongest relationships is observed between monthly income and educational attainment.

There is also availability from tourists regarding the purchase of local products based on salt. Most respondents, with a total of 80%, purchased different products: table salt (32.2%), bath salt (27.80 %) or mineral water (27.80%).

Figure 1. Salt products purchased during travel



Source: Authors' own research and edited.

CONCLUSION

Transylvania is characterized by its abundant salt resources, which makes it a significant region in these terms. Beyond the natural endowment of the region, an equally crucial aspect resides in the level of tourism exploitation associated with salt. The territorial landscape of Transylvania is adorned with numerous tourist destinations full of attractions based on salt resources, salt lakes, salt pans and therapeutic mud.

The findings of this research highlight that tourists show a strong familiarity with these destinations and predominantly prefer domestic attractions with salt resources during their travels. Thus, in addition to the inherent richness of these locations, their prominence in the consciousness of tourists takes on essential significance.

Nevertheless, it is noteworthy that the general knowledge pertaining to the health-enhancing properties of salt remains rather limited. Based on the data of this research, salt is primarily acknowledged in the minds of tourists for its utility in alleviating respiratory ailments and bolstering the immune system. However, other health-improving effects, such as dermatological, vascular, gastrointestinal, etc., are less known. In such instances, the medical recommendations, the range of therapeutic treatments, and the medical supervision of the healing processes can influence the level of awareness. Consequently, health improvement and availability of comprehensive specialist services are key motivations for travel.

Among the most remarkable findings is the unwavering enthusiasm among tourists, both during and subsequent to the SARS-Cov-2 pandemic, to visit destinations that offer salt-based elements, as well as partake in associated therapeutic treatments. This resilience of interest signifies an enduring appeal of salt-infused tourism, reflecting its enduring allure even amidst challenging circumstances.

Although nowadays many destinations rich in salt and salt water have tourist infrastructure, the real volume of natural resources could support a much larger number of touristic infrastructures. The problem is therefore not to be found in the lack of natural healing factors i.e., salt, but in unequal utilization. A great example of this is Sovata and Lake Ursu, where the huge number of tourists and the lack of regulation can have an irreversible nature-destroying effect. Fortunately, recognizing this danger, restrictions on the number of tourists and bathing have been introduced to keep tourism within reasonable limits.

REFERENCES

- Alexe, Mircea – Serban, Gheorghe (2014): The evolution of heliotherm phenomenon in the karstosaline lake Ursu from Sovata, Romania. *Carpathian Journal of Earth and Environmental Sciences*, 9(2), 103-111.
- Aupert, Pierre (1993): *Thermae et balnea. The Architecture and Cultural History of Roman Public Baths*, *Gnomon*, (pp. 753-755). Verlag C.H. Beck
- Berlescu, Elena (1975): *Indicații și contraîndicații de trimitere la cură balneoclimaterică*. Editura Medicală, București.
- Chang, Lizone – Beise-Zec, Rian (2013): Consumer perception of healthfulness and appraisal of health-promoting tourist destinations. *Tourism Review*, 68(1), 34-47. <https://doi.org/10.1108/16605371311310066>
- Cianga, Iulia – Costea, Daniel – Oprea Marius-George – Giurgiu, Laura Rodica – Cianga, Nicolae (2010): The reconstruction of "The Salt Road" – a means to develop and promote the saline health tourism in Transylvania. *Journal of Tourism Challenges and Trends*, 3(2), 81-100.
- Cohen, Marc (2008): Spas, wellness and human evolution. In M. Cohen, & G. Bodeker (Eds.), *Understanding the global spa industry: Spa management* (pp. 3-25). Burlington: Butterworth-Heinemann. <https://doi.org/10.1016/b978-0-7506-8464-4.00001-1>
- Cooper Marcus, Clare – Barnes, Marni Marcus (1999): *Healing gardens: Therapeutic benefits and design recommendations* (Vol. 4). John Wiley & Sons.
- Cro, Susana – Martins, Antonio Miguel (2017): Structural breaks in international tourism demand: Are they caused by crises or disasters? *Tourism Management*, 63, 3–9. <https://doi.org/10.1016/j.tourman.2017.05.009>
- Dinu, Mihaela – Cioacă Adrian – Zbucnea, Alexandra (2010): Health tourism in Romania: main features and trends. *Journal of Tourism Challenges and Trends*, 3(2), 9-34.
- Estevao, Cristina – Costa, Carlos (2020): Natural disaster management in tourist destinations: A systematic literature review. *European Journal of Tourism Research*, 25, 2502. <https://ejtr.vumk.eu/index.php/about/article/view/417>
- Farajzadeh, Hassan – Matzarakis, Andreas (2012): Evaluation of thermal comfort conditions in Ourmich Lake,

- Iran. *Theoretical and Applied Climatology*, 107, 451-459.
- Gâștescu, Petre (2000): *Dicționar de limnologie*, București: Editura HGA
- Global Wellness Institute (2013): The Global Wellness Tourism Economy Report. Retrieved from http://www.globalwellnesssummit.com/images/stories/pdf/wellness_tourism_economy_exec_sum_final_10022013.pdf (Accessed: 19 nov. 2021)
- Harris, William (2010): Balneotherapy Overview. (Retrieved at 15 nov 2021), from: <http://health.howstuffworks.com/skin/beauty/skintreatments/balneotherapy.htm>
- Hojcska, Ágnes Erzsébet – Szabó, Zoltán (2021): Investigating natural treatment factors and inequalities of medicinal water institutions in the aspect of tourism in Hungary. *Geo Journal of Tourism and Geosites*, 36, 555-562.
- Hotărâre nr. 1.154/23.07.2004 privind aprobarea Normelor tehnice unitare pentru realizarea documentațiilor complexe de atestare a funcționării stațiunilor balneare, climatice și balneoclimatice și de organizare a întregii activități de utilizare a factorilor naturali, Monitorul Oficial nr. 752/18.08.2004 [Decision nr. 1.154 /23.07.2004 regarding the approval of the Unitary Technical Norms for the realization of the complex documentation for the attestation of the functioning of the spa, climatic and balneoclimatic resorts and for the organization of the entire activity of using natural factors, Official Gazette nr. 752/18.08.2004].
- Hotărâre nr. 571/08.08.2019 privind aprobarea Strategiei pentru dezvoltarea turismului balnear, Monitorul Oficial nr. 703/27.08.2019 [Decision nr. 571/08.08.2019 regarding the approval of the Strategy for the development of spa tourism, Official Gazette nr.703/27.08.2019].
- Irimus, Ioan Aurel – Petrea, Danut – Vescan, Iuliu – Toma, Camelia Bianca – Vieru, Ioana (2011): Vulnerability of touristic geomorphosites in Transylvanian saliferous areas (Romania). *GeoJournal of Tourism Geosites*, 8, 212-218.
- Ivanova, Maya – Ivanov Krasimirov, Ivan – Ivanov, Stanislav (2021): Travel behaviour after the pandemic: the case of Bulgaria. *Anatolia*, 32(1), 1-11. <https://doi.org/10.1080/13032917.2020.1818267>
- Keller, Veronika – Gulyás, Greta – Molnár, Elisabeta Ilona – Printz-Markó, Erzsébet: (2021): The future of the Hungarian spa sector (thermal and medicinal baths) In: Szabó, Zoltán; Bujdosó, Zoltán (eds.) *Proceeding of The 3rd Spa Towns International Scientific Conference Hajdúszoboszló*, Hungary, Magyar Fürdővárosok Szövetsége Egyesület.
- Keller, Veronika – Printz-Markó, Erzsébet (2020): A marketinginnovációk szerepe a termál-és gyógyfürdők (spa) szektorában (The Role of Marketing Innovations in the Spa Sector). *Polgári Szemle: Gazdasági És Társadalmi Folyóirat*, 16(4-6), 285-297. <https://doi.org/10.24307/psz.2020.1021>
- Kovacs, Ferecnc (2019): 19th Century Salt Baths of Transylvania. *WIT Transactions on The Built Environment*, 191, 199-210.
- Kucukusta, Deniz – Basak Denizci Guillet (2014): Measuring spa-goers' preferences: A conjoint analysis approach. *International Journal of Hospitality Management*, 41, 115-124. <https://doi.org/10.1016/j.ijhm.2014.05.008>
- Labrenz, Matthias – Collins, M. David – Lawson, Paul. A. – Tindall, Brian. J – Braker, Gesche – Hirsch, Peter (1998) : *Antarctobacter heliothermus* gen. nov., sp. nov., a budding bacterium from hypersaline and heliothermal Ekho Lake. *International Journal of Systematic and Evolutionary Microbiology*, 48(4), 1363-1372 <https://doi.org/10.1099/00207713-48-4-1363>
- Laesser, Christian (2011): Health travel motivation and activities: insights from a mature market–Switzerland. *Tourism Review*, 66(1/2), 83-89. <https://doi.org/10.1108/16605371111127251>
- Last, William M. (2002): Geolimnology of salt lakes. *Geosciences Journal*, 6, 347-369. <https://doi.org/10.1007/bf03020619>
- Munteanu, Constantin – Munteanu, Diana (2012): *Ape terapeutice clorurate-sodice*, Editura Balneara, Bucuresti.
- Pessot, Elena – Spoladore, Daniel – Zangiacomì, Andrea – Sacco, Marco (2021): Natural resources in health tourism: a systematic literature review. *Sustainability*, 13(5), 2661. <https://doi.org/10.3390/su13052661>
- Popescu Antoaneta-Carina (2012): Tourism planning opportunities for the salt lakes of Ocnele Mari and Ocnita. *Aerul și Apa. Componente ale Mediului*, 405.
- Printz-Markó, Erzsébet – Molnar, Elisabeta Ilona (2020): Health tourism—A new system-model based on the four basic elements. In *Challenges and Opportunities to Develop Organizations Through Creativity, Technology and Ethics: The 2019 Griffiths School of Management Annual Conference on Business, Entrepreneurship and Ethics (GSMAC)* (pp. 253-267). Springer International Publishing. https://doi.org/10.1007/978-3-030-43449-6_14
- Rus, Liliana – Avram, Simona Elena – Micle, Valer (2020): Determination and assessments of physico-chemical pa-

- rameters of the water from anthropo-saline lakes located in the protected area “Salina Turda”, Romania. *Studia Universitatis Babeş-Bolyai, Chemia*, 65(2). <https://doi.org/10.24193/subbchem.2020.2.21>
- Salameh, Elias (2022): Threats to the thermal mineralized waters used for therapeutic purposes in Jordan. *Research Square* <https://doi.org/10.21203/rs.3.rs-2135554/v1>
- Smith Kay, Melanie – Puczkó, László (2016): Balneology and health tourism. In *The Routledge handbook of health tourism* (pp. 299-310). Routledge. <https://doi.org/10.4324/9781315693774>
- Sorocovschi, Victor (2008): The lakes of the Transylvanian Plain: genesis, evolution and territorial repartition. *Lakes reservoirs and ponds*, 1(1), 36-48
- Trihas, Nicolaos – Konstantarou, Anastasia (2016): Spa-goers’ Characteristics, Motivations, Preferences and Perceptions: Evidence from Elounda, Crete. *AlmaTourism – Journal of Tourism, Culture and Territorial Development*, Vol. 7, No. 14, pp. 106-127.
- Tugyi, Nóra – Vörös, Lajos – Boros, Emil – Felföldi, Tamás – Márialigeti, Károly – Somogyi, Boglárka (2016): Szélsőséges környezeti paraméterek formálta mikrobiális közösség egy heliotherm tóban (Medve-tó, Szováta) [Microbial communities under extreme environmental conditions in a heliotherm lake (Lake Ursu, Sovata)]. *Hidrológiai Közlemény*, 96 (Klsz.), 96-102.
- Vais, Gheorghe (2009): Clujul eclectic: programe de arhitectură în perioada dualistă (1867-1918)[Eclectic Cluj. Architectural Programs of the Dualist Period (1867-1918)]. *UT Press*
- Vasistha, Prachi – Ganguly, Rajiv (2020): Water quality assessment of natural lakes and its importance: An overview. *Materials Today: Proceedings*, 32, 544-552. <https://doi.org/10.1016/j.matpr.2020.02.092>
- Williams, William David (2002): Environmental threats to salt lakes and the likely status of inland saline ecosystems in 2025. *Environmental conservation*, 29(2), 154-167. <https://doi.org/10.1017/s0376892902000103>
- Williams, Williams David – Sherwood, Joth E. (1994): Definition and measurement of salinity in salt lakes. *International Journal of Salt Lake Research*, 3, 53-63. <https://doi.org/10.1007/bf01990642>
- World Health Organization (2020): Basic documents. Forty-ninth edition -including amendments adopted up to 31 May 2019, p.1.
- World Tourism Organization and European Travel Commission (2018), *Exploring Health Tourism*, UNWTO, Madrid, DOI: <https://doi.org/10.18111/9789284420209>