



Publisher

<http://jssidoi.org/esc/home>



---

## IMPACT OF COVID-19 ON LABOUR FORCE AND RECOVERY PECULIARITIES IN SELECTED COUNTRIES OF EUROPE\*

Szilárd Szigeti <sup>1</sup>, Vivien Pásztóová <sup>2</sup>, Csilla Mezősi <sup>3</sup>

<sup>1,2</sup> Faculty of Economics and Informatics, J. Selye University, Komárno, Bratislavská cesta 3322, 945 01 Komárno, Slovakia

<sup>3</sup> European Spas Association, 7 Rue de Crayer, Brüssel, Belgium

E-mails:<sup>1</sup> [szilard.szigeti.edu@gmail.com](mailto:szilard.szigeti.edu@gmail.com) (corresponding author); <sup>2</sup> [vivien.pasztoova97@gmail.com](mailto:vivien.pasztoova97@gmail.com);  
<sup>3</sup> [mezosi@europeanspas.eu](mailto:mezosi@europeanspas.eu)

Received 14 December 2022; accepted 16 March 2023; published 30 March 2023

**Abstract.** In this paper, we have examined the impact of COVID-19 on labour force and recovery peculiarities in selected countries of Europe. Our goal has been to reach patients with post-COVID-19 or long-COVID-19 symptoms who were treated since 2020 and latest 2021 in different medical spas around Europe. Our research focused on whether work affects any aspect of life during illness and whether complaints experienced during post-COVID-19 treatments affect any aspect of life during illness. To achieve our results, we used quantitative research and tested two hypotheses. Our primary survey was conducted in May-June 2022. A total of 110 valid responses were received. The data collected through the questionnaire was examined using statistical analysis and calculations – descriptive statistics, one-way ANOVA, linear regression analysis. All the respondents had COVID-19 positive test results in their life and attended post-COVID treatments in different medical spas in Europe. The results showed that coronavirus symptoms (post- or long-COVID-19 syndrome) were most likely to interfere with social and leisure activities and work. Well-being and pain need improvement. Improvement is possible with spa rehabilitation packages offering complex interventions such as balneotherapy (which uses local natural resources such as natural healing water, peloids, mofette), climatotherapy, physiotherapy, occupational therapy, and physiotherapy. Working during illness has a significant impact on quality of life. It also has an impact on daily activities, mobility, and pain. Working during illness (COVID-19 infection) affected all aspects of life, and patients perceived that illness-related disturbances mainly affected work performance.

**Keywords:** Post-COVID-19; health; local natural remedies; medical spa; work; employee; therapy; Italy; France, Czech Republic, Slovak Republic; Lithuania; Slovenia; Germany; Hungary; Serbia; Croatia; Latvia; Romania

**Reference** to this paper should be made as follows: Szigeti, S., Pásztóová, V., Mezősi, C. 2023. Impact of COVID-19 on labour force and recovery peculiarities in selected countries of Europe. *Entrepreneurship and Sustainability Issues*, 10(3), 302-317. [http://doi.org/10.9770/jesi.2023.10.3\(20\)](http://doi.org/10.9770/jesi.2023.10.3(20))

**JEL Classifications:** I10, I31, J50, M54

**Additional disciplines:** healthcare, HRM, medical spas

---

\* This research was supported by the project, which has received funding from the European Union's Interreg InnovaSPA project. The research was realized in cooperation with the European Spas Association (Interreg InnovaSPA project).

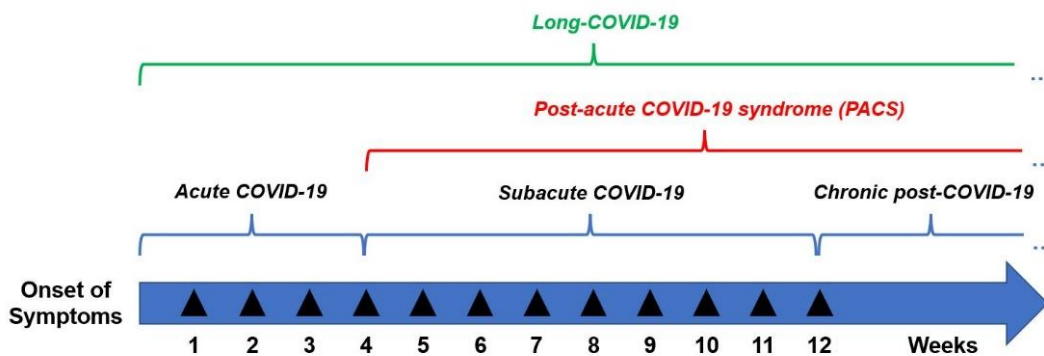
**1. Introduction**

During the intensive period of COVID-19 and afterward, we have seen an increase in the number of people who had several symptoms after the infection, which lasted for weeks and months. More and more people complained of prolonged COVID-19 symptoms after contracting the virus. As of 20 April 2022, more than 504.4 million confirmed COVID-19 cases and over 6.2 million related deaths had been reported to WHO (WHO 2022). Patients were no longer just knocking on the doors of doctors' surgeries or hospitals but also on the spa. Demand has led European health resort with hydrotherapy centers and medical spas to develop different treatments (packages of treatments) for each condition some with specialization on respiratory, cardiovascular, neurology, musculoskeletal, mental problems. In the context of COVID-19 disease, the issue of not only the end-stage condition but also changes in work and performance at work and return to work has become a hot topic. In our research, we linked illness and work. How did the illness and subsequent recovery affect work and other aspects of life? Does work affect any aspects of life during illness (having COVID-19 infection or post-COVID)? Do complaints experienced during the post-COVID treatments affect any aspects of life while being ill (having COVID-19 infection or post-COVID)? We focused on patients and spa therapies mainly from the Central European region and some other European countries. To understand the topic, let us summarise the long-COVID-19 and post-acute COVID-19 definitions, symptoms, and treatments, and also, we looked at the labour market situation.

**2. Theoretical background**

*Long-COVID-19 and Post-Acute COVID-19*

Patients are experiencing prolonged multiorgan symptoms and complications beyond the initial period of acute infection and illness. The list of persisting and new symptoms reported by patients is extensive, including chronic cough, shortness of breath, chest tightness, cognitive dysfunction, and extreme fatigue (Venkatesan, 2021). Acute COVID-19 lasts up to 4 weeks. The term post-acute COVID-19 syndrome (PACS) refers to the combination of symptoms and impairments that persist beyond 4 weeks after the onset of symptoms of the symptoms and impairments (Szekanecz & Vályi-Nagy, 2021) (see Figure 1 below).



**Figure 1.** Nomenclature: acute-, subacute-, chronic post-, post-acute- and long-COVID-19

Source: Szekanecz & Vályi-Nagy (2021)

“Long COVID-19 is a term used to describe the condition presented by individuals who have recovered from the acute phase of COVID-19 but are still reporting lasting effects of the infection or having had the usual clinical picture for much longer than expected or have new symptoms and signs” (Cabrera Martimbiano et al., 2021, p.2). The proper duration of long COVID-19 is still uncertain. The main signs and symptoms of long COVID-19

are respiratory manifestations, chest pain, fatigue, dyspnea, cough, cognitive and memory impairment, arthralgia, sleep disorders, and myalgia.

The most prevalent aspects of persistent symptoms were old age, female sex, severe clinical status at the acute phase, high number of comorbidities, hospital admission, and oxygen supplementation at the acute phase (Cabrera Martimbianco et al., 2021).

Post-acute COVID-19 syndrome (PCS) is defined as an ongoing symptomatic illness in patients who have recovered from their initial COVID-19 infection (Malik et al., 2022); this condition occurs in individuals with a history of probable or confirmed SARS-CoV-2 infection, usually 3 months from the onset of the acute phase of COVID-19 with symptoms (Cabrera Martimbianco et al., 2021) that last for at least 2 months and cannot be explained by an alternative diagnosis (Soriano et al., 2022).

**Table 1.** Comparison between acute COVID-19 and post-acute COVID-19

Features	Acute COVID-19	Post-acute COVID-19
<b>Initiation of symptoms</b>	2 to 14 days after exposure	4 weeks after the initial response
<b>Common symptoms</b>	Fever, dry cough, and shortness of breath >50% of patients	Fatigue, pneumonia, myalgias, headache, thromboembolic conditions
<b>Systems commonly involved</b>	Respiratory, renal, hematological	Respiratory, cardiovascular, neurologic, multisystem inflammatory syndrome, hematological

Source: Joshee et al. (2022)

Persistent symptoms and/or delayed or long-term complications of SARS-CoV-2 infection beyond 4 weeks from the onset of symptoms (Nalbandian et al., 2022) or ongoing symptomatic COVID-19 for people who still have symptoms between 4 and 12 weeks after the start of acute symptoms; and (2) post-COVID-19 syndrome or chronic COVID-19 beyond 12 weeks after the start of acute COVID-19 (Venkatesan, 2021, Shah et al., 2021, Cabrera Martimbianco et al., 2021, Szekanecz & Vályi-Nagy, 2021). Table 1 shows a comparison between acute COVID-19 and post-acute COVID-19.

According to the literature, there seems to be a trend of older people experiencing PCS (Mandal et al., 2021), for example, the weakened immune system (Malik et al., 2022). Older adults are also more vulnerable to social isolation and loneliness (Hwang et al., 2020, Stefan et al., 2020), and research has shown that both are independent risk factors for higher all-cause mortality (Yu et al., 2020). Table 2 summarizes the main findings and diagnoses of post-acute COVID-19.

58% of the post-COVID-19 patients had reported poor quality of life (41.5% had pain/discomfort, 37.5% had anxiety/depression, followed by 36% problems with mobility, 28% problems with usual activities) (Malik et al., 2022).

**Table 2.** Persistent symptoms: post-acute COVID-19

System	Main findings and diagnoses
<b>General</b>	Decreased quality of life Muscle pain and weakness, joint pain, general pain
<b>Mental health</b>	Depression, anxiety
<b>Pulmonary</b>	Breathlessness, cough, fatigue, dyspnea, chest pain, decreased exercise capacity, and hypoxia
<b>Cardiovascular</b>	Heart palpitations, dyspnea, chest pain, arrhythmias, tachycardia, and autonomic dysfunction
<b>Gastrointestinal</b>	Diarrhea, vomiting, loss of appetite, nausea
<b>Neuropsychological</b>	Fatigue, pain, myalgia, headache, concentration problems, cognitive impairment (brain fog), memory deficits, anxiety, depression, sleep disturbances, insomnia, anosmia (loss of smell), ageusia, dysgeusia (loss or distortion of taste)
<b>Functional mobility impairment</b>	Mobility decline reduced exercise tolerance

Source: Halpin et al. (2021), Groff et al. (2021), Nalbandian et al. (2022), Soriano et al. (2022), Malik et al. (2022), Joshee et al. (2022)

Almost half of the study patients reported having a financial impact due to COVID-19 hospitalization. Nearly 10% reported that they had used their savings and had to ration food, heat, housing, and other medications. Furthermore, the persistent symptoms forced the patients to reduce working hours or quit – this may increase their financial distress (Chopra, 2021). In addition, many patients who return from the hospital and have ongoing symptoms may have faced prolonged social isolation, which negatively impacts their mental health and perceived quality of life (Hwang et al., 2020). It is important for healthcare institutions (including spas) to represent quality and equity as well as profitability, but it is also important that patients feel safe, trusted and empathic when using their services (Szigeti, 2023).

#### *Spa therapy and post-COVID-19*

Post-hospitalization pulmonary spa rehabilitation should be considered in all patients with post-COVID-19 (Sumbalová et al., 2022). More and more people are complaining of prolonged symptoms after contracting the virus. European health resort with medical spa or climate health resorts developed different treatments for each condition to alleviate these. Therefore, the indication list for spa medicine care in Slovakia was expanded in 2021 to include new indications related to treating conditions after overcoming COVID-19. In these indication groups, 1 535 patients residing in Slovakia were treated in spas after overcoming COVID-19 (for them, the social insurance system paid the treatments). Most of the patients (1 246 persons) are due to the persistence of respiratory problems after the treatment of the infection with a severe course in the hospital. According to the patients' diagnosis and irrespective of the indication group of the post-COVID-19 disease, 2 084 patients were treated in 2021 at spas in Slovakia (NCZI, 2022). In Germany, a cohort study summarized the evidence on post-COVID-19 conditions in younger age groups and confirmed previous findings in adults (Roessler et al., 2022).

Every day during the cure, the post-COVID-19 spa guests' physical and mental well-being is improved with repeated thermal water treatments and using local natural remedies. The physiotherapy sessions work on patients with long Covid and consist of manual massage underwater or with water jets on muscle contractures, but also include manual massage of the lumbar and neck muscles before respiratory physiotherapy is practiced allowing for better breathing. Results observed thanks to these treatments: (1) relieves all muscle, respiratory and joint disorders; (2) restores confidence in the body's physical abilities; (3) improves sleep; (4) reduces physical and mental fatigue; (5) reduces shortness of breath; (6) improves mobility (sante.journaldesfemmes.fr, 2022, online).

COVID-19 leaves many people with long-term health problems that need to be addressed as soon as possible. One way to help post-covid patients is through rehabilitative aging at a medical spa. Spa care for post-COVID-19 syndrome is follow-up medical care. Usually, 8-12 weeks after the acute phase of COVID-19 has ended and when severe health problems persist that limit even normal daily activities (ASK, 2022, online). Spa care is always comprehensive inpatient health care using methodologies: balneotherapy, climatotherapy, physiotherapy, occupational therapy, physical therapy (thermotherapy, hydrotherapy, electrotherapy, mechanotherapy, electrotherapy, light therapy, oxygen therapy, and others), patient/relative education, diet therapy and nutritional counseling, psychotherapy, and psychological counseling are always part of the treatment in natural health spas (ASK, 2022, online).

### *Labour market*

A study shows that six to twelve months after acute SARS-CoV-2 acute infection, even among young and middle-aged adults with a mild infection, there is a significant burden of post-acute symptom sequelae, with a significant impact on general health and work performance (Peter et al., 2022). This has a major effect on the labour market, that has been characterized by uncertainty and volatility – the situation has been affected by innovation and technological innovation, as well as demographic changes and the pandemic. The aging of society applies to all Member States of the European Union, while the proportion of people in active employment is steadily decreasing, the number of older people is increasing. Jobs are lost, and new jobs are created (Grenčíková et al., 2022). Gender roles within households and the division of labour will also change (Hedvičáková & Kozubíková, 2021). In their research, Rožman et al. (2021) investigate the consequences of the coronavirus epidemic in Slovenia, focusing on gender differences in employment. At the time of the pandemic, women working while raising children were more likely to have their working hours interrupted. Family responsibilities, and caring for elderly sick relatives and children had a significant impact on women's job satisfaction and work efficiency. Abendroth et al. (2022) discuss gender differences in German employment, finding that women faced greater barriers to teleworking than men, made more difficult by household management and child-raising. The labour market outlook due to the pandemic is uncertain. Recovery from the virus occurs in different ways and at different times in the market (Enfield, 2021). In post-Covid Europe, the situation varies from country to country due to different economic and social developments (Bieszk-Stolorz & Dmytrów, 2022). Research analyzing the labour market in the aftermath of the pandemic shows that companies are experiencing a downward trend in supply and a shortage of highly qualified workers. Southern Europe and France are in a more vulnerable employment situation than the countries of Eastern, Central, and Northern Europe (Raimo et al., 2021). Barrot et al. (2020) analyzed the causes of employment loss in France, and their results show that the highest employment losses are in agriculture, food, hospitality, and construction, while the lowest are in industries covering information and communication technologies. In their research, Radulescu et al. (2021) highlighted the increase in the Romanian unemployment rate, with the pandemic having a significant impact on the mentality of workers. Health and proper working conditions in the workplace have been prioritized. Employment was in a precarious situation, and the fate of workers was not clear (Stuart et al., 2021). The further spread of the virus would have been curbed if infected workers had stayed at home, but not everyone had the option of paid sick leave. Many countries worldwide do not provide paid sick leave for workers from the first day of illness. In many countries, social security covers part or all of this financial burden, shared between the government, the employer, and the employee (Heymann et al., 2020). The severing of employment links will limit the economy's recovery once the crisis is over. Employers and workers will continue to face several challenges as demand in some industries will be depressed, affecting organizational productivity and work organization (Dias et al., 2020). The coronavirus epidemic transformed organizational policy and practice, requiring adaptation to a rapidly changing social situation. The possibility of working from home has been promoted not only as a benefit for people with disabilities but also as an equal opportunity for people living in areas with high unemployment rates. After the pandemic, economic progress and sustainability can be achieved by correcting inequalities (Holland, 2021). In the future, the structure of the economy and the business environment will change. Digital ways of working will come to the fore, with the possibility to telework in more workplaces, allowing cost savings, increased productivity, and work-life balance.

Companies must learn to adapt to new ways of managing and training employees (Findlay et al., 2021). The virus most affected the Romanian labor market through unemployment, underemployment, access to wages, and social protection. In the wake of the virus, 18.4% of workers started teleworking (Davidescu et al., 2021). In German employment, the introduction of teleworking was initially limited by many factors, notably a shortage of skilled workers and an attitude to innovation. The share of teleworkers has increased by more than 20%. A significant percentage of workers would retain the option of working from home in the future. According to research by the German Institute for Employment Research, work tasks, cooperation with co-workers, job control, privacy concerns, and the home environment were the biggest challenges in teleworking (Hartig-Merkel, 2022). In dealing with the pandemic, it has been the solution for increasing companies, with varying impacts on workers' physical and mental health (Lange & Kayser, 2022). Following the outbreak of the health epidemic in France, more than 30% of workers were working in a home environment, mostly affecting higher-paid workers and women. However, more than 40% of workers were more satisfied with their work on the premises (Foucault & Galasso, 2020). Čok et al. (2022) state concerning Slovenian employment that a reinterpretation of the place of work is expected after the epidemic. A shared workplace is currently envisaged, where workers work in different locations (on-site, at home, other locations). The share of teleworkers has also increased in Latvia, with 43% of companies offering the option to work from home to protect workers' health (Bikse et al., 2021). Karácsony (2021) found in his study that the proportion of teleworkers in Slovak employment increased sevenfold due to the coronavirus epidemic. A significant proportion of workers would also like to see the possibility of teleworking. In their study, Skýpalová et al. (2021) focus on the changing Czech employment relationship and workload, which focused on the possibility of working from home. Workers perceived little change in the number of hours worked but teleworking proved to be a fairly productive solution for part of the working week. In addition to ensuring safety at work, workers' mental health and well-being must also be taken into account. The issue of flexibility in the workplace calls for a four-day working week and hybrid employment (Gavin et al., 2022). The epidemic's impact on the labour market manifests in sectoral, occupational, and organizational approaches. The gradual emergence of vaccination programs has reduced people's sense of insecurity, which is crucial for the rehabilitation of the economy and trade (Zielinski, 2022). In the future, there will be a strong focus on job creation in the health sector and the industries that serve it (Basso et al., 2022). The world is currently experiencing a period of Post-Covid Syndrome, which is also affecting European culture's existence and sense of security (Tóth & Kajanová, 2022). The rapid increase in infected people during the coronavirus epidemic affected labour market mechanisms. In the aftermath of the pandemic, hiring, job search and wage subsidies for the unemployed could be a solution to reorganize working families. European governments aim to reduce unemployment, even by increasing the number of job vacancies (Su et al., 2021).

People complain of prolonged symptoms following COVID-19 virus infection, and many patients after the acute phase, or those who return from hospital, experience ongoing, prolonged symptoms. They may therefore face prolonged social isolation, which negatively affects their mental health and perceived quality of life. In our research, we sought to answer whether work affects any aspect of life during/after COVID-19 or post-Covid-19 illness. Furthermore, if these patients receive individual treatments at medical spa providers, do these complaints improve, to what extent do they affect any aspect of life being studied, or do they experience any change? This research is devoted to filling in the indicated gap.

### **3. Research objective and methodology**

As the research focuses on the impact of COVID-19 on labour force and recovery peculiarities in some countries of Europe, our goal has been to reach patients with post-COVID-19 or long-COVID-19 symptoms and treated in different medical spas around Europe. Therefore, our research focused on the following: does work affect any aspect of life during illness, and do complaints experienced post-COVID-19 treatments affect any aspect of life during illness? To achieve our results, we decided to use quantitative research.

The following research questions and hypotheses were proposed:

RQ1: Does work affect any aspects of life during illness (having COVID-19 infection or post-COVID-19)?

H1: Working during illness (COVID-19 infection) has affected all aspects of life.

RQ2: Do complaints experienced during the post-COVID-19 treatments affect any aspects of life while being ill (having COVID-19 infection or post-COVID-19)?

H2: The complaints experienced at the end of treatment affect all aspects of life.

Our primary survey was conducted in May-June 2022 using a digital online questionnaire (Google Forms) and a paper-based questionnaire. The questionnaires were available in 12 different languages - English in all cases and in addition also in the languages of the target countries (Italian, French, Czech-Slovak, Lithuanian, Slovenian, German, Hungarian, Serbian, Croatian, and Latvian). Out of 12 types of questionnaires six languages were answered. Therefore, the sample is not representative, but trends can be identified by examining the results. The research was realized in cooperation with the European Spas Association (Interreg InnoVA SPA project). A total of 110 valid responses were received. All the respondents had COVID-19 positive test results in their life and attended post-COVID-19 treatments in different medical spas in Europe. The questionnaires were filled out at the end of their stay. At the beginning of the questionnaire, respondents answered general demographic questions, followed by questions on health status, then a series of questions on symptoms of COVID-19 that disrupted them, and finally, questions on the effectiveness of therapies were asked. Closed, open, and Likert scale questions (ranging from 1 to 6, 1 to 7, and 1 to 10). The data collected through the questionnaire was examined using statistical analysis and calculations. The data were organized in a single excel file to facilitate our analysis and were analyzed using IBM SPSS Statistics 23 software for statistical tests. Results were considered significant at a p-value of 0.05 and a p-value of 0.001. As a first step, a normality test was performed to determine whether our data were from a normal distribution. The results of this test allowed us to decide whether we could then carry out parametric or non-parametric statistical tests to test the hypotheses we formulated.

The demographic data were analyzed using general descriptive statistical methods (frequency analysis). The distribution of the sample is summarised in Table 3.

**Table 3.** The Structure of the Sample Distribution, N=110

N=110, Total=100 % Missing=0			
	Factors	n	Percent
Language of the questionnaire	CZECH-SLOVAK	49	44.5 %
	FRENCH	19	17.3 %
	GERMAN	8	7.3 %
	LATVIAN	16	14.5 %
	ROMANIAN	4	3.6 %
	SLOVENIAN	14	12.7 %
Gender	MALE	51	46.4 %
	FEMALE	59	53.6 %
Age group	25-34 years old	3	2.7 %
	35-44 years old	11	10.0 %
	45-54 years old	28	25.5 %
	55-64 years old	29	26.4 %
	65-74 years old	23	20.9 %
	75 years or older	16	14.5 %

Source: primary research

In the questionnaire survey, we recorded some respondents' demographic data, illustrated in Table 1. As demographic data, we asked for the language spoken by the respondent, his/her gender, and age, thus ensuring the total anonymity of the respondents. For the analysis of demographic data, simple descriptive statistics are used, i.e., frequency and percentage distribution are quantified. In total, we used a valid sample size of N=110, which was treated as 100 % for all results. We had no missing data or incorrect completions, so no filtering or cleaning of the data was necessary. Judging by the quality of the data, we worked with a representative sample. The table shows that we could construct a total of 5 groups in terms of ethnicity. The first group comprises respondents of Czech and Slovak nationality combined, representing 44.5 % of respondents. Furthermore, 17.3 % of respondents are French, 14.5 % Latvian, 12.7 % Slovenian, 7.3 % German, and 3.6 % Romanian. 53.6 % of respondents are women, and 46.4 % are men. The distribution by age was as follows: 2.7 % of respondents aged 25-34, 10.0 % of respondents aged 35-44, 25.5 % of respondents aged 45-54, 26.4 % of respondents aged 55-64, 20.9 % of respondents aged 65-74 and 14.5 % of respondents aged 75 and over.

#### 4. Results

All the respondents had COVID-19 infection and were patients with post- or long-COVID-19 symptoms (and also treated for this disease). Table 4 shows the impact of coronavirus symptoms in our three domains: social life and leisure activities, work (paid, unpaid voluntary, training), and family life and household tasks. The data are presented using simple descriptive statistics, but the values of several indicators are quantified. The question was answered on a Likert scale of 1 to 10, with 1 being not bothered and 10 being very bothered.

The first column of the table indicates the most frequently indicated values on the scale, the frequency, percentage distribution, variance measure variance, the sample mean, median and standard deviation. Coronavirus symptoms were most disturbing to respondents in the areas of social and leisure activities and work, as both factors were rated with a maximum score of 10.

**Table 4.** Impact of coronavirus symptoms, N=110

<b>N=110, Total=100 % Missing=0</b>	<b>Most common value</b>	<b>Freque ncy</b>	<b>Percent</b>	<b>Variance</b>	<b>Mean</b>	<b>Median</b>	<b>Std. Deviation</b>
<b>Social life and leisure activities</b>	10	19	17.3 %	7.151	6.491	7	2.674
<b>Work (paid, unpaid volunteer, training)</b>	10	21	19.1 %	528.220	1.982	7	22.983
<b>Family life and household tasks</b>	7	19	17.3 %	7.063	6.236	7	2.657

*Source:* primary research

Family life and household tasks combined were the most frequently rated at 7. However, when looking at the mean and median scores, it can be seen that the symptoms of coronavirus bothered respondents to a similar extent, more than the average, in the areas of social life and leisure activities (Mean=6.491; Median=7) and family life and household tasks (Mean=6.236; Median=7). In addition, the sample mean indicates an even more significant disturbance for work (Mean=11.982; Median=7).



Table 5 shows the distribution of the seven areas where improvements in quality of life are needed after the illness. Respondents were asked to rate each area on a Likert scale of 0 to 10, with 0 being options not at all necessary, 5 being moderately necessary, and 10 being options completely necessary. Each variable in the table is analyzed using descriptive statistics. Respondents believe that their social relationships (Mean=4.627; Mode=0) need not be improved. However, their well-being (Mean=5.427; Mode=8) and pain (Mean=5.036; Mode=10) need to be improved based on the mode and sample mean. All other areas require moderate improvement.

**Table 5.** Distribution of areas where improvements are needed after illness

N=110, Total=100 % Missing=0	Mean	Std. Deviation	Variance	Median	Mode
My daily activities	5.118	2.998	8.986	5	6
My mobility	5.164	3.135	9.826	5	5
My social contacts	4.627	3.156	9.961	5	0
My efficiency	5.218	3.078	9.475	5	5
My well-being	5.427	3.036	9.219	5.5	8
My quality of life	5.482	3.040	9.243	5.5	5
My pain	5.036	3.200	10.237	5	10

Source: primary research

H1: Working during illness (COVID-19 infection) has affected all aspects of life.

H0: Work during illness (COVID-19 infection) has no effect on all aspects of life.

The data collected and organized in the questionnaire survey are from a normal distribution. A parametric statistical test is used to test the hypotheses. To test the first hypothesis, a one-way analysis of variance, including a one-way ANOVA, will be used to determine whether a statistically significant difference exists between the means of the groups under study. According to the homogeneity test, the results of the Levene Test show that the variances for the variables daily activities (3.578), mobility (2.825), quality of life (2.643), and pain (2.245) are homogeneous so that the value of the ANOVA can be tested. The variances are not homogeneous for all other variables and, therefore, irrelevant to this study. In the ANOVA table, daily activities (p=0.026), mobility (p=0.057), quality of life (0.002), and pain (p=0.016) are represented as satisfying the p<0.05 condition. A significant relationship is found between the variables under study. Following the significance of the relationship, the strength of the effect, i.e., the r value, is quantified. The following formula is used:

$$\begin{aligned} \Gamma_{(\text{my daily activities})} &= \frac{\sqrt{\text{Sum of Squares (between groups)}}}{\sqrt{\text{Sum of Squares (total)}}} = \frac{\sqrt{175.848}}{\sqrt{979.464}} = 2.37 = 23.7 \% \\ \Gamma_{(\text{my mobility})} &= \frac{\sqrt{170.739}}{\sqrt{1071.055}} = 2.28 = 22.8 \% \\ \Gamma_{(\text{my quality of life})} &= \frac{\sqrt{34.323}}{\sqrt{1007.464}} = 2.71 = 27.1 \% \\ \Gamma_{(\text{my pain})} &= \frac{\sqrt{12.891}}{\sqrt{1115.855}} = 2.52 = 25.2 \% \end{aligned}$$

The r value for the quality of life (27.1 %) is the highest, indicating a strong impact. Working during illness has a significant impact on quality of life. However, it also affects daily activities (r=23.7 %), mobility (22.8 %), and pain (25.2 %). Hypothesis H1 is confirmed, and alternative hypothesis H0 is rejected.

**Table 6.** Statistical results (H1 testing)

Test of Homogeneity of Variances		Levene Statistic	df1	df2	Sig.	
My daily activities		3.578	10	99	0.000	
My mobility		2.825	10	99	0.004	
My quality of life		2.643	10	99	0.007	
My pain		2.245	10	99	0.021	
My social contacts		1.342	10	99	0.219	
My efficiency		1.474	10	99	0.160	
My well-being		1.569	10	99	0.127	
ANOVA		Sum of Squares	df	Mean Square	F	Sig.
My daily activities	Between Groups	175.848	10	17.585	2.166	0.026
	Within Groups	803.616	99	8.117		
	Total	979.464	109			
My mobility	Between Groups	170.739	10	17.074	1.877	0.057
	Within Groups	900.316	99	9.094		
	Total	1071.055	109			
My quality of life	Between Groups	234.323	10	23.432	3.000	0.002
	Within Groups	773.141	99	7.81		
	Total	1007.464	109			
My pain	Between Groups	212.891	10	21.289	2.334	0.016
	Within Groups	902.963	99	9.121		
	Total	1115.855	109			

Source: primary research

H2: The complaints experienced at the end of treatment affect all aspects of life.

H0: Complaints at the end of treatment have no impact on all aspects of life.

A linear regression analysis is performed to examine the relationship between two or more variables to test the second hypothesis. In formulating the hypothesis, we have assumed that one variable is dependent on three other variables that influence it.

Table 7. Statistical results (H2 testing)

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate		
	0.513	0.263	0.242	2.5238		
<b>ANOVA</b>		<b>Sum of Square</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
	<b>Regression</b>	240.686	3	80.229	12.596	0.000
	<b>Residual</b>	675.177	106	6.37		
	<b>Total</b>	915.864	109			
<b>Coefficients</b>	<b>Un-standardized Coefficients</b>	<b>Standardized Coefficients</b>		<b>t</b>	<b>Sig.</b>	<b>95,0 % Confidence Interval for B</b>
	<i>B</i>	<i>Std. Error</i>	<i>Beta</i>			<i>Lower Bound</i> <i>Upper Bound</i>
(Constant)	0.565	0.679		0.832	0.407	-0.782 1.912
Work (paid, unpaid volunteer, training)		0.005	0.011	0.042	0.504	0.616 -0.016
Social life/leisure activities:	0.133	0.124	0.123	1.070	0.287	-0.113 0.379
Family life/home responsibilities	0.453	0.125	0.415	3.612	0.000	0.204 0.702

Source: primary research

Based on the regression model, the R value is 0.513, i.e., a value closer to 1. This suggests a strong relationship between the variables. The coefficient of determination is  $R^2=0.263$  (26.3 %), so the model explains a significant proportion of the variance of the dependent variable, 26.3 %. The values in the ANOVA table provide information on how well the regression model describes the data.  $F=12.596$  and  $p=0.000$ , which satisfies the  $p<0.05$  condition. The Coefficients table quantifies the coefficients that make up the regression equation. The table shows whether each variable has a significant independent effect on the dependent variable. The results of the t-test indicate that only the variable work (paid, unpaid voluntary, training) satisfies the  $p<0.05$  condition, i.e., the variable is significantly related to the dependent variable. For the variable work (paid, unpaid volunteer, training),  $t=0.042$  is less than 0.05. This correlation is partial, the effect of the other variables in the model is filtered out. The value determines the magnitude and direction of the effect in column B. The value associated with the variable work (paid, unpaid volunteer, training) is 0.011, which means that if someone experienced a complaint at the end of treatment, the disturbance experienced during work increases by 0.011 points. In the survey, disturbance experienced during work (paid, unpaid volunteer, training) was given a score of 10. This gives the following equation:

$$\text{Complaints during treatment} = 0.565 (\text{intercept}) + (0.011 * 10) + e (\text{standard error of measurement}) = 0.675 + e$$

The result can be used to estimate 1 point by rounding up the correlation plus all the errors for each estimate. Hypothesis H2 is partially confirmed in hypothesis testing, and alternative hypothesis H0 is rejected. Disruptions in treatment are most likely to affect work performance.

## Conclusions

The research gives an excellent basis and overview of the current care situation for post-COVID-19 patients in Europe. According to the results, working during illness (COVID-19 infection) has affected all aspects of life (the patients' daily activities, mobility, social contacts, efficiency, well-being, quality of life, and pain). It is partially confirmed that the complaints experienced at the end of treatment affect all aspects of life. Disruptions in treatment are most likely to affect work performance.

The world is currently experiencing a period of post-COVID-19 syndrome, affecting the livelihoods and sense of security of European culture (Tóth & Kajanová, 2022). In addition to ensuring safety at work, workers' mental health and well-being must also be considered (Gavin et al., 2022). The rapid increase in the number of infected people during the coronavirus epidemic has impacted labour market mechanisms. Following the epidemic, hiring, job search, and wage subsidies for the unemployed may provide a solution to reorganize working families. European governments aim to reduce unemployment, even by increasing the number of job vacancies (Su et al., 2021).

The literature review summarized showed that patients with COVID-19 infection who also had post-COVID symptoms several weeks after viral infection reported that 58% had poor quality of life after illness (41.5% had pain/discomfort, 37.5% anxiety/depression, followed by 36% mobility problems, 28% problems with usual activities) (Malik et al., 2022). Nearly half of the patients reported that COVID-19 treatment had a financial impact. Nearly 10% reported that they had used up all their savings due to the illness (and sometimes lost time from work). Persistent symptoms forced patients to reduce their working hours or quit - this may have increased financial hardship (Chopra, 2021). In addition, many patients who returned from hospital with persistent symptoms may have faced prolonged social isolation, which negatively impacts their mental health and perceived quality of life (Hwang et al, 2020). One way to treat post- or long-COVID-19 patients is rehabilitation in a medical spa. Spa and this sub-sector of the health care industry have realized first that there is a demand for these types of therapies and started to treat patient since 2020. Spa treatment for post-COVID syndrome is a follow-up treatment, usually 8-12 weeks after the acute phase of COVID-19 has ended, and when severe health problems persist that limit even normal daily activities (ASK, 2022, online).

The results of our primary research also showed that the symptoms caused by the coronavirus (and post- or long-COVID-19 syndrome) were most disturbing to respondents in social and leisure activities and at work. Family life and household tasks together were the most frequently rated 7. The disorder also causes psychological problems in the long term, so mental treatment is needed in addition to physical treatment. This has been correctly implemented by rehabilitation centers in their programs.

According to the respondents, their wellbeing and pain need improvement, based on the mode and sample averages. They need moderate improvement in all other areas. Improvement is possible with spa rehabilitation packages that offer complex interventions: balneotherapy, climatotherapy, physiotherapy, occupational therapy, physical therapy (thermotherapy, hydrotherapy, electrotherapy, mechanotherapy, electrotherapy, light therapy, oxygen therapy, and others), patient/relative education, diet therapy and nutritional counseling, psychotherapy, and psychological counseling are always part of the treatment in climate health resorts and medical spas (ASK, 2022, online). Were fully paid for by the Slovak state health insurance from April 14, 2021 in 5 indication groups according to the most dominant symptomatology. Also in Luxembourg, Domain Thermal Mondorf launched a successful Post/Long-Covid recovery program fully covered by the Ministry of Health. One of the first pioneer in this filed was Heilsustofnun health centre in Iceland. Working during illness has a significant impact on quality of life. However, it also has an impact on daily activities ( $r=23.7\%$ ), mobility (22.8%), and pain (25.2%). Hypothesis H1 is confirmed, i.e., working during illness (Covid-19 infection) affected all aspects of life. These results strongly suggest that work cessation is advisable after prolonged COVID-19 disease. Complex rehabilitation

treatments can promote the return to work. However, this may also require (1) out-of-pocket payments by individuals (patients); (2) funding by health insurers; (3) funding support from employers. Employers may wish to consider such forms of support for the recovery of employees diagnosed with post- or long-COVID-19 syndrome. This will enable them to return to work in a much better state, which may be associated with a more positive quality of life. In the survey, disturbance at work (paid, unpaid volunteering, training) scored 10 points. This provides clear evidence (partial confirmation of hypothesis H2) that perceived disruption is most likely to affect work performance.

There were some limitations in the research:

Not all relevant providers (in the first phase of the study 46 qualified medical spas were involved) and contacts completed the patient questionnaires in our quantitative questionnaire survey. Hence, the results only reflect the views of about half of the target population and patients' views. Furthermore, a limitation of the survey was the smaller sample size. In the future, we should aim for as large a sample size as possible, which is also homogeneously distributed across countries. This is also achievable for a longer interval survey so that all spa providers can complete the research questionnaire with patients at the end of a treatment period of several weeks. Another limitation of our research is that we did not have patient data, which was severe. However, the results may be related to chronic diseases and health determinants.

## References

- ASK-Asociácia Slovenských Kúpeľov. (2022). Ako do kúpeľov po ochorení COVID-19. Retrieved January 29, 2023, from <https://ask.sk/mention/ako-do-kupelov-po-ochoreni-covid-19>.
- Abendroth, A.-K., Lott, Y., Hipp, L., Müller, D., Sauermann, A. & Carstensen, T. (2021). Has the COVID-19 pandemic changed gender- and parental-status-specific differences in working from home? Panel evidence from Germany. *Gender Work Organ*, 29, 1991-2011. <http://doi.org/10.1111/gwao.12836>
- Barrot, J. N., Grassi, B. & Sauvagnat, J. (2020). Sectoral effects of social distancing. *COVID Econ. Cent. Econ. Policy Res.* 3, 85-102. <https://doi.org/10.2139/ssrn.3569446>
- Basso, G., Boeri, T., Caiumi, A., & Paccagnella, M. (2022). Unsafe jobs, labour market risk and social protection. *Economic Policy*, 37(110), 229-267. <https://doi.org/10.1093/epolic/eiac004>
- Bieszk-Stolorz, B. & Dmytrów, K. (2022). Assessment of the Similarity of the Situation in the EU Labour Markets and Their Changes in the Face of the COVID-19 Pandemic. *Sustainability*, 14, 3646. <https://doi.org/10.3390/su14063646>
- Bikse, V., Lusena-Ezera, I., Rivza, P. & Rivza, B. (2021). The Development of Digital Transformation and Relevant Competencies for Employees in the Context of the Impact of the COVID-19 Pandemic in Latvia. *Sustainability*, 13, 9233. <https://doi.org/10.3390/su13169233>
- Cabrera Martimbianco, A. L., Pacheco, R. L., Bagattini, Â. M., & Riera, R. (2021). Frequency, signs and symptoms, and criteria adopted for long COVID-19: A systematic review. *International Journal of Clinical Practice*, 75(10), e14357. <https://doi.org/10.1111/ijcp.14357>
- Čok, G.; Mrak, G., Breznik, J., Foški, M. & Zavodnik Lamovšek, A. (2022). Spatial Regulation Instruments of Work at Home: The Case of Slovenia as a Post-Transition Country. *Sustainability*, 14, 4254. <https://doi.org/10.3390/su14074254>
- Davidescu, A. A., Apostu, S.-A. & Stoica, L.A. (2021). Socioeconomic Effects of COVID-19 Pandemic: Exploring Uncertainty in the Forecast of the Romanian Unemployment Rate for the Period 2020–2023. *Sustainability*, 13, 7078. <https://doi.org/10.3390/su13137078>
- Dias, M. C., Joyce, R., Postel-Vinay, F. & Xu X. (2020). The Challenges for Labour Market Policy during the COVID-19 Pandemic. *Fiscal Studies*, 41(2), 371-382. <https://doi.org/10.1111/1475-5890.12233>
- Enfield, S., (2021). Covid-19 impact on employment and skills for the labour market. K4D Helpdesk Report. Brighton, UK: Institute of Development Studies. <http://doi.org/10.19088/K4D.2021.081>

- Findlay, P., Lindsay, C., & Roy, G. (2021). Business models, innovation and employees experiences in the workplace: challenges for the post-Covid-19 economy. In Monograph Book Print ISBN: 9781800374591 eISBN: 9781800374607, p. 132-146. <https://doi.org/10.4337/9781800374607.00016>
- Foucault, M. & Galasso, V. (2020). Working after COVID-19: Cross-Country Evidence from Real-Time Survey Data. *Science Po CEVIPOF Research Note*, 9, 1-33.
- Gavin, M., Poorhosseinzadeh, M., & Arrowsmith, J. (2022). The transformation of work and employment relations: COVID-19 and beyond. *Labour and Industry*, 32(1), 1-9. <https://doi.org/10.1080/10301763.2022.2038353>
- Grenčíková, A., Habánik, J., Španková, J., Hůževka, M. & Šrámka, M. (2022). Current Labour Market Challenges in the Light of Future Economic and Demographic Developments. *European Journal of Interdisciplinary Studies*, 14(1), 100-112. <https://doi.org/10.24818/ejis.2022.07>
- Groff D, Sun A, Ssentongo AE, et al. (2021). Short-term and Long-term Rates of Postacute Sequelae of SARS-CoV-2 Infection: A Systematic Review. *JAMA Netw Open*, 4(10), e2128568. <http://doi.org/10.1001/jamanetworkopen.2021.28568>
- Halpin, S. J., McIvor, C., Whyatt, G., Adams, A., Harvey, O., McLean, L., Walshaw, C., Kemp, S., Corrado, J., Singh, R., Collins, T., O'Connor, R. J., & Sivan, M. (2021). Postdischarge symptoms and rehabilitation needs in survivors of COVID-19 infection: A cross-sectional evaluation. *Journal of Medical Virology*, 93(2), 1013-1022. <https://doi.org/10.1002/jmv.26368>
- Hartig-Merkel, W. (2022). The COVID-19 pandemic as a catalyst for digitalisation and remote working in Germany. *Medical Writing*, 31(3), 36-38. <http://doi.org/10.56012/ZRFX2526>
- Hedvičáková, M. & Kozubíková, Z. (2021). Impacts of COVID-19 on the Labour Market- Evidence from the Czech Republic. HED, Hradec Economic Days, 232-241. University of Hradec Králové, <http://doi.org/10.36689/uhk/hed/2021-01-023>
- Heymann, J., Raub, A., Waisath, W., McCormack, M., Weistroffer, R., Moreno, G., Wong, E. & Earle, A. (2020). Protecting health during COVID-19 and beyond: A global examination of paid sick leave design in 193 countries, *Global Public Health*, 15(7), 925-934. <http://doi.org/10.1080/17441692.2020.1764076>
- Holland, P. (2021). Will disabled workers be winners or losers in the post-covid-19 labour market? *Disabilities*, 1(3), 161-173.
- Hwang, T. J., Rabheru, K., Peisah, C., Reichman, W., & Ikeda, M. (2020). Loneliness and social isolation during the COVID-19 pandemic. *International Psychogeriatrics*, 32(10), 1217-1220. <https://doi.org/10.1017/S1041610220000988>
- Chopra, V., Flanders, S. A., O'Malley, M., Malani, A. N., & Prescott, H. C. (2021). Sixty-Day Outcomes Among Patients Hospitalized With COVID-19. *Annals of Internal Medicine*, 174(4), 576-578. <https://doi.org/10.7326/M20-5661>
- Joshee, S., Vatti, N., & Chang, C. (2022). Long-Term Effects of COVID-19. *Mayo Clinic proceedings*, 97(3), 579-599. <https://doi.org/10.1016/j.mayocp.2021.12.017>
- Journal des Femmes (2022) Cure thermale pour Covid long: bienfaits, où, pour qui? Retrieved January 29, 2023, from <https://sante.journaldesfemmes.fr/fiches-maladies/2858025-cure-thermale-pour-covid-long>.
- Karácsony, P. (2021). Impact of teleworking on job satisfaction among Slovakian employees in the era of COVID-19. *Problems and Perspectives in Management*, 19(3), 1-9. [http://doi.org/10.21511/ppm.19\(3\).2021.01](http://doi.org/10.21511/ppm.19(3).2021.01)
- Lange, M. & Kayser, I. (2022). The Role of Self-Efficacy, Work-Related Autonomy and Work-Family Conflict on Employee's Stress Level during Home-Based Remote Work in Germany. *Int. J. Environ. Res. Public Health*, 19, 4955. <https://doi.org/10.3390/ijerph19094955>
- Malik, P., Patel, K., Pinto, C., Jaiswal, R., Tirupathi, R., Pillai, S., & Patel, U. (2022). Post-acute COVID-19 syndrome (PCS) and health-related quality of life (HRQoL)-A systematic review and meta-analysis. *Journal of Medical Virology*, 94(1), 253-262. <https://doi.org/10.1002/jmv.27309>
- Mandal, S., Barnett, J., Brill, S. E., Brown, J. S., Denny, E. K., Hare, S. S., Heightman, M., Hillman, T. E., Jacob, J., Jarvis, H. C., Lipman, M. C. I., Naidu, S. B., Nair, A., Porter, J. C., Tomlinson, G. S., Hurst, J. R., & ARC Study Group. (2021). Long-COVID': a cross-

sectional study of persisting symptoms, biomarker and imaging abnormalities following hospitalisation for COVID-19. *Thorax*, 76(4), 396-398. <https://doi.org/10.1136/thoraxjnl-2020-215818>

Nalbandian, A., Sehgal, K., Gupta, A., Madhavan, M. V., McGroder, C., Stevens, J. S., Cook, J. R., Nordvig, A. S., Shalev, D., Sehrawat, T. S., Ahluwalia, N., Bikdeli, B., Dietz, D., Der-Nigoghossian, C., Liyanage-Don, N., Rosner, G. F., Bernstein, E. J., Mohan, S., Beckley, A. A., Seres, D. S., Wan, E. Y. (2021). Post-acute COVID-19 syndrome. *Nature Medicine*, 27(4), 601-615. <https://doi.org/10.1038/s41591-021-01283-z>

NCZI. (2022). KÚPEENÁ STAROSTLIVOSŤ V SLOVENSKEJ REPUBLIKE V ROKU 2021. Retrieved December 29, 2022, from [https://data.nczisk.sk/statisticke\\_vystupy/Kupelna\\_starostlivost/Kupelna\\_starostlivost\\_SR\\_2021\\_Sprava\\_k\\_publicovanym\\_vystupom.pdf](https://data.nczisk.sk/statisticke_vystupy/Kupelna_starostlivost/Kupelna_starostlivost_SR_2021_Sprava_k_publicovanym_vystupom.pdf)

Peter, R. S., Nieters, A., Kräusslich, H. G., Brockmann, S. O., Göpel, S., Kindle, G., Merle, U., Steinacker, J. M., Rothenbacher, D., Kern, W. V., & EPILOC Phase 1 Study Group. (2022). Post-acute sequelae of covid-19 six to 12 months after infection: population based study. *BMJ (Clinical research ed.)*, 379, e071050. <https://doi.org/10.1136/bmj-2022-071050>

Radulescu, C. V., Ladaru, G. R., Burlacu, S., Constantin, F., Ioanăș, C. & Petre, I. L. (2021). Impact of the COVID-19 pandemic on the Romanian labor market. *Sustainability*, 13, 271. <https://doi.org/10.3390/su13010271>

Raimo, N., Martínez-Córdoba, P.-J., Benito, B. & Vitolla, F. (2021). The Impact of the COVID-19 Pandemic on the Labor Market: An Analysis of Supply and Demand in the Spanish Municipalities. *Sustainability*, 13(23), 12996. <https://doi.org/10.3390/su132312996>

Roessler M, Tesch F, Batram M, Jacob J, Loser F, et al. (2022). Post-COVID-19-associated morbidity in children, adolescents, and adults: A matched cohort study including more than 157,000 individuals with COVID-19 in Germany. *PLOS Medicine*, 19(11): e1004122. <https://doi.org/10.1371/journal.pmed.1004122>

Rožman, M., Sternad Zabukovšek, S., Bobek, S. & Tominc, P. (2021). Gender Differences in Work Satisfaction, Work Engagement and Work Efficiency of Employees during the COVID-19 Pandemic: The Case in Slovenia. *Sustainability*, 13, 8791. <https://doi.org/10.3390/su13168791>

Shah, W., Hillman, T., Playford, E. D., & Hishmeh, L. (2021). Managing the long term effects of covid-19: summary of NICE, SIGN, and RCGP rapid guideline. *BMJ (Clinical Research ed.)*, 372, n136. <https://doi.org/10.1136/bmj.n136>

Skýpalová, R., Hynková, V. & Dania, T. (2021). Consequences of the Covid-19 Pandemic and Policy Measures in the Czech Economy: Impacts on Labour Markets and Household Incomes. *EMI, Ekonomika Management Inovace*, 13(2), 6-20.

Soriano, J. B., Murthy, S., Marshall, J. C., Relan, P., Diaz, J. V., & WHO Clinical Case Definition Working Group on Post-COVID-19 Condition. (2022). A clinical case definition of post-COVID-19 condition by a Delphi consensus. *The Lancet. Infectious Diseases*, 22(4), e102–e107. [https://doi.org/10.1016/S1473-3099\(21\)00703-9](https://doi.org/10.1016/S1473-3099(21)00703-9)

Stuart, M., Spencer, D. A., McLachlan, C. J., & Forde, C. (2021). COVID-19 and the uncertain future of HRM: Furlough, job retention and reform. *Human Resource Management Journal*, 31(4), 904-917. <https://doi.org/10.1111/1748-8583.12395>

Su, C-W., Dai, K., S. Ullah & Andlib, Z. (2022). COVID-19 pandemic and unemployment dynamics in European economies, *Economic Research-Ekonomika Istraživanja*, 35(1), 1752-1764. <http://doi.org/10.1080/1331677X.2021.1912627>

Stefan, G., Coca, O., Creanga, D.E., Mursa, G.C., Mihai, C. (2020). The impact of the crisis generated by Covid-19 on the population concerns. A comparative study at the level of the European Union. *Transformations in Business & Economics*, Vol. 19, No 2B (50B), pp.703-719

Sumbalová, Z., Kucharská, J., Rausová, Z., Palacka, P., Kovalčíková, E., Takácsová, T., Mojto, V., Navas, P., Lopéz-Lluch, G., & Gvozdjaková, A. (2022). Reduced platelet mitochondrial respiration and oxidative phosphorylation in patients with post COVID-19 syndrome are regenerated after spa rehabilitation and targeted ubiquinol therapy. *Frontiers in Molecular Biosciences*, 9, 1016352. <https://doi.org/10.3389/fmolb.2022.1016352>

Szekanecz, Z., & Vályi-Nagy, I. (2021). Posztakut COVID-19 szindróma [Post-acute COVID-19 syndrome]. *Orvosi Hetilap*, 162(27), 1067-1078. <https://doi.org/10.1556/650.2021.32282>

Szigeti, S. (2023). Az állami és a magán egészségügy fogyasztói szemmel Magyarországon. *Egészségügyi Innovációs Szemle*, 2(1), 14-22. <https://doi.org/10.56626/egis.v2i1.12293>

Tóth, D. & Kajanová, J. (2022). Protecting the Economy of Slovakia and Czech Republic during the Covid-19 Pandemic with the Help of the European Union. HED, Hradec Economic Days, University of Hradec Králové. <http://doi.org/10.36689/uhk/hed/2022-01-07>

Venkatesan P. (2021). NICE guideline on long COVID. *The Lancet. Respiratory Medicine*, 9(2), 129. [https://doi.org/10.1016/S2213-2600\(21\)00031-X](https://doi.org/10.1016/S2213-2600(21)00031-X)

World Health Organization. (2022). World health statistics 2022: monitoring health for the SDGs, sustainable development goals. Geneva. ISBN 978-92-4-005114-0

Yu, B., Steptoe, A., Chen, L. J., Chen, Y. H., Lin, C. H., & Ku, P. W. (2020). Social Isolation, Loneliness, and All-Cause Mortality in Patients With Cardiovascular Disease: A 10-Year Follow-up Study. *Psychosomatic Medicine*, 82(2), 208-214. <https://doi.org/10.1097/PSY.0000000000000777>

Zielinski, M. (2022). The Effect of the COVID-19 Pandemic on the Labor Markets of the Visegrad Countries. *Sustainability*, 14, 7386. <https://doi.org/10.3390/su14127386>

**Funding:** This research was funded and supported by the project, which has received funding from the European Union's Interreg InnoVA SPA project via Association Thermauvergne. Title: “SPA THERAPY & COVID” good practices existing on the European market and more precisely the post-COVID thermal practices.

**Author Contributions:** Conceptualization: *Mezősi, Szigeti*; methodology: *Szigeti, Pásztóová*; data analysis: *Szigeti, Pásztóová*, writing—original draft preparation: *Szigeti, Pásztóová*, writing; review and editing: *Szigeti*; visualization *Szigeti, Pásztóová*. All authors have read and agreed to the published version of the manuscript.

**Szilárd SZIGETI** is a third-year PhD student at the Faculty of Economics and Informatics, Selye János University, Komárno. He has a Master's degree in Economics and Management and in Health Care Management from Semmelweis University. He gained more than 5 years professional experience in healthcare institutions in Hungary and his research interests include healthcare marketing and management and HR. He teaches following subjects: marketing and management in healthcare; Marketing; International marketing.

**ORCID ID:** <https://orcid.org/0000-0001-7422-6166>

**Vivien PÁSZTÓOVÁ** is a second-year PhD student at the Faculty of Economics and Informatics of J. Selye University in Slovakia. Her research fields are HR management, labour market changes, digitalisation and organisational culture. She is an active member of the editorial board of the online academic journal *Külügyi Műhely* and of *TéKa Társulás* (Scientific and Cultural Association of Young Hungarians in Slovakia).

**ORCID ID:** <https://orcid.org/0000-0003-0600-2384>

**Csilla MEZŐSI** is the elected Secretary General of the European Spas Association. Since 2000 she has been involved in the activities of ESPA. By 2012 she became a member of the Board, representing Hungary.

**ORCID ID:** <https://orcid.org/0000-0002-3714-0774>