SI-PANDA
Behavioural Insights Survey on COVID-19: Slovenia

NIJZ National Institute of Public Health

COVID-19 PANDEMIC IN SLOVENIA

Results of a panel online survey on the impact of the pandemic on life (SI-PANDA), 17th wave

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INTRODUCTION

Pandemic fatigue is the expected and natural human response to long-lasting public health crisis that significantly affects the daily life of an individual. It appears gradually and is influenced by emotions, experience, and attitudes. It is a response to long-lasting and unsolved distress in people's lives. The severity and the scope of COVID-19 pandemic and the introduction of strict measures to prevent and limit the transmission of the infection have a huge impact on the daily lives of all people, including those not directly affected by the virus. Over time, people's compensatory mechanisms for crisis management become fatigued and so these people lack motivation to follow recommended self-protective behaviours, and consequently jeopardize the effectiveness of measures to prevent the spread of SARS-CoV-2 virus infection among the population.

Understanding COVID-19-related human behaviour enables the identification of at-risk target groups and contributes to finding solutions that encourage better adherence to protective behaviour recommendations. Adherence to measures most effectively reduces the transmission and spread of SARS-CoV-2 in the long run, reduces fatigue and distress of all kinds, and increases the quality of life. In addition, it maintains a functioning healthcare system, enables the normalization of health promotional, preventive, and curative treatments, normalizes the functioning of all segments of society, from education to economy, and enables reducing inequalities through remote determinants of health. Above all, it can most effectively reduce the COVID-19 burden at the individual and social level in Slovenia.

The aim of the research is to investigate and understand human behaviour in relation to COVID-19 and to assess pandemic fatigue during and after the COVID-19 pandemic in Slovenia. With the help of this research, we hope to identify and address the impact of the pandemic, the measures introduced, and the recommendations and decisions made by the government on people's lives. Here are some key results. The data collected in the survey provide key information on pandemic fatigue of the general population for professionals and decision makers. This also enforces the recommendation of the World Health Organization[1], that countries regularly conduct qualitative and quantitative population surveys, which should serve as the basis for further action.

[1] https://apps.who.int/iris/bitstream/handle/10665/335820/WHO-EURO-2020-1160-40906-55390-eng.pdf.

METHODOLOGY

The survey in the form of an online questionnaire takes place in twenty-one replicates starting on 4 December 2020. The first part of the survey (up to and including the 12th wave) was conducted by the Mediana Institute for Market and Media Research on behalf of the National Institute of Public Health (NIJZ); and the second part is conducted by Valicon. The first twelve repetitions were performed once every two weeks and the second part once a month. Data are analysed at the NIJZ.

Selected panel members are invited to the online survey, which takes place through the online panel. Each wave of online survey involves a sample of about 1,000 adults aged 18 to 74.

In the survey, we use the World Health Organization (WHO)[2] questionnaire, which was translated, and adjusted to the situation in our country in accordance with the WHO instructions, and we also included some additional questions.

The data presented in the report are weighted by gender, age groups and statistical region.

The report mostly presents data from the **17th wave** of the panel web survey, that took place **from 12 October 2021 to 15 October 2021** on a sample of 1,022 adults aged 18 to 74 years. Some comparisons with previous waves of survey are also shown.

So far, the following waves of survey have been conducted:

1st wave:	from 4 Dec 2020 to 6 Dec 2020	10th wave:	from 9 Apr 2021 to 12 Apr 2021
2nd wave:	from 18 Dec 2020 to 21 Dec 2020	11th wave:	from 23 Apr 2021 to 26 Apr 2021
3rd wave:	from 4 Jan 2021 to 5 Jan 2021	12th wave:	from 7 May 2021 to 9 May 2021
4th wave:	from 15 Jan 2021 to 17 Jan 2021	13th wave:	from 8 Jun 2021 to 10 Jun 2021
5th wave:	from 29 Jan 2021 to 30 Jan 2021	14th wave:	from 6 Jul 2021 to 9 Jul 2021
6th wave:	from 12 Feb 2021 to 15 Feb 2021	15th wave:	from 25 Aug 2021 to 28 Aug 2021
7th wave:	from 26 Feb 2021 to 1 Mar 2021	16th wave:	from 21 Sept 2021 to 23 Sept 2021
8th wave:	from 12 Mar 2021 to 15 Mar 2021	17th wave:	from 12 Oct 2021 to 15 Oct 2021
9th wave:	from 26 Mar 2021 to 29 Mar 2021		

[2] https://www.euro.who.int/en/health-topics/health-determinants/behavioural-and-cultural-insights-for-health/tools-and-resources/who-tool-for-behavioural-insights-on-covid-19/survey-tool-and-guidance-behavioural-insights-on-covid-19-produced-by-the-who-european-region.

SUMMARY OF THE SURVEY

SI-PANDA
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Indicator	1st wave (4 Dec to 6 Dec 2020) %	13th wave (8 Jun to 10 Jun 2021) %	17th wave (12 Oct to 15 Oct 2021) %
Testing in case of close contact with a COVID-19 positive person *(the share of respondents who would definitively get tested in case they were in contact with COVID-19 positive person and would not develop any symptoms themselves)*	64.4	67.9	74.0
Vaccination rate *(the share of respondents who were vaccinated with at least one dose of COVID-19 vaccine)*	/	49.0	73.3
Hesitation regarding vaccination *(the share of respondents who do not intend to be vaccinated)*	/	32.1	26.7
Long COVID *(the share of respondents who reported at least one medical problem one month after the recovery from the infection)*	/	73.5	66.0
Avoiding visiting the doctor due to a non-COVID-19 problem *(the share of respondents who avoided visiting the doctor in the last 2 weeks due to a non-COVID-19 problem)*	35.8	27.6	26.2
Physical activity *(the share of respondents who reported they were less physically active in the last 2 weeks than before the pandemic)*	44.8	32.6	31.2
Stress *(the share of respondents who have often, or every day, felt tense, stressed or under a lot of pressure in the last 14 days)*	/	23.3	21.7
Mental health problems *(the share of respondents with depressive disorder or mental health problems)*	37.5	37.7	36.0
Deterioration of the personal financial situation *(the share of respondents who estimated that their financial situation in the last 3 months was worse than before)*	31.4	24.1	26.2

MAIN RESULTS

Supporting the measures currently in force

Measures to prevent and limit the spread of SARS-CoV-2 virus are in force for a long time and are very diverse. The measures have been varying between individual waves of the survey and have received very different support. We are presenting opinions on the measures that were in force at the time of the survey. In the 17th wave of the survey, the largest support was given to the opening of theatres and cinemas under certain conditions (60.6%), more than a half of respondents also supported watching sporting events in person as well as live concerts, festivals, parties and other entertainment events in accordance with the RVT condition and the use of digital green certificate (Figure 1). The least support in this wave was given to the mandatory use of masks on outdoor surfaces when it is not possible to maintain interpersonal distance of at least 2 metres (29.1%) – support for this measure has dropped by as much as 18.5 percentage points since the previous wave of the survey.

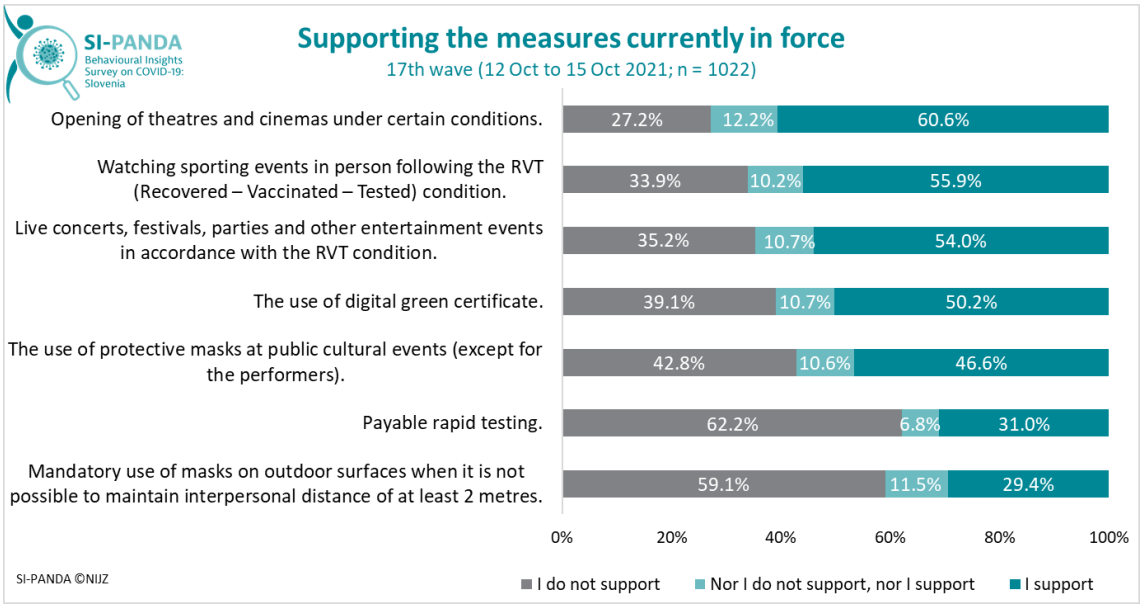


Figure 1: Supporting the measures currently in force, total.

In the 17th wave of the survey, 51.6% of respondents believed that measures related to SARS-CoV-2 virus unfairly limit the lives of some population groups more than others; the percentage is declining in the last five waves, which is probably connected with the more relaxed measures. 41.5% of the respondents believe that the measures infringe on our rights to an appropriate extent, given the current state of the pandemic; this percentage has decreased a little compared to the previous wave. What is more worrying is the still low percentage of respondents who believe that the inhabitants of Slovenia follow the measures related to controlling the SARS-CoV-2 virus – only 29% of the respondents share this opinion (Figure 2).

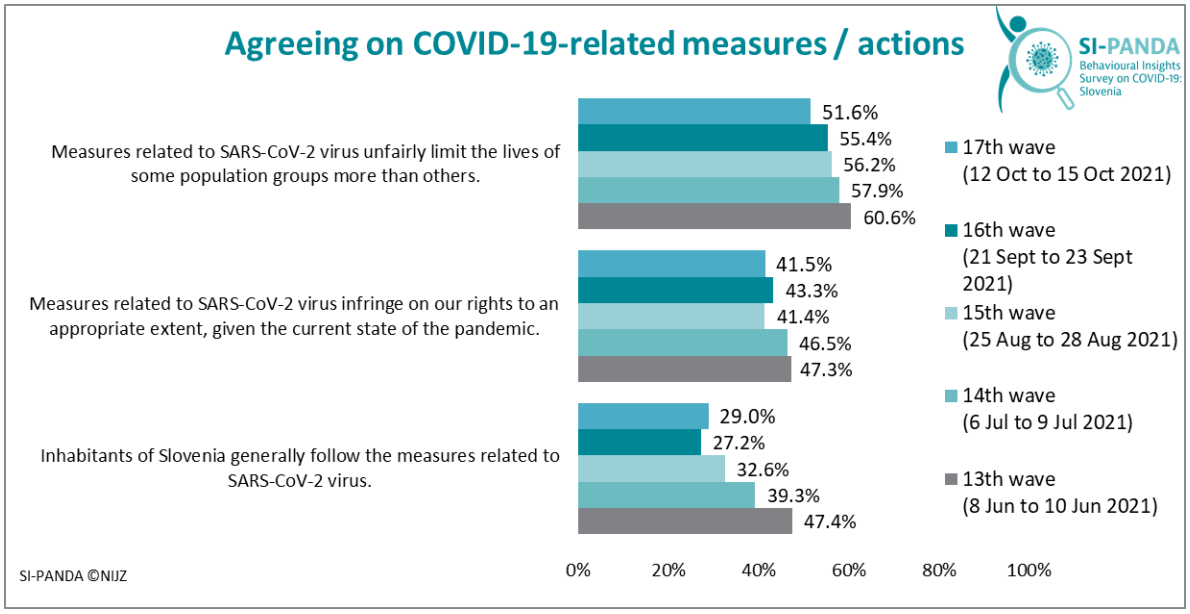


Figure 2: Opinions on COVID-19-related measures / actions, total and by survey waves.

According to vaccination status, almost a quarter more of those who will not be vaccinated than those who already are agree with the statement that measures related to the SARS-CoV-2 virus are unfairly limiting the lives of some groups of the population more than others (Figure 3).

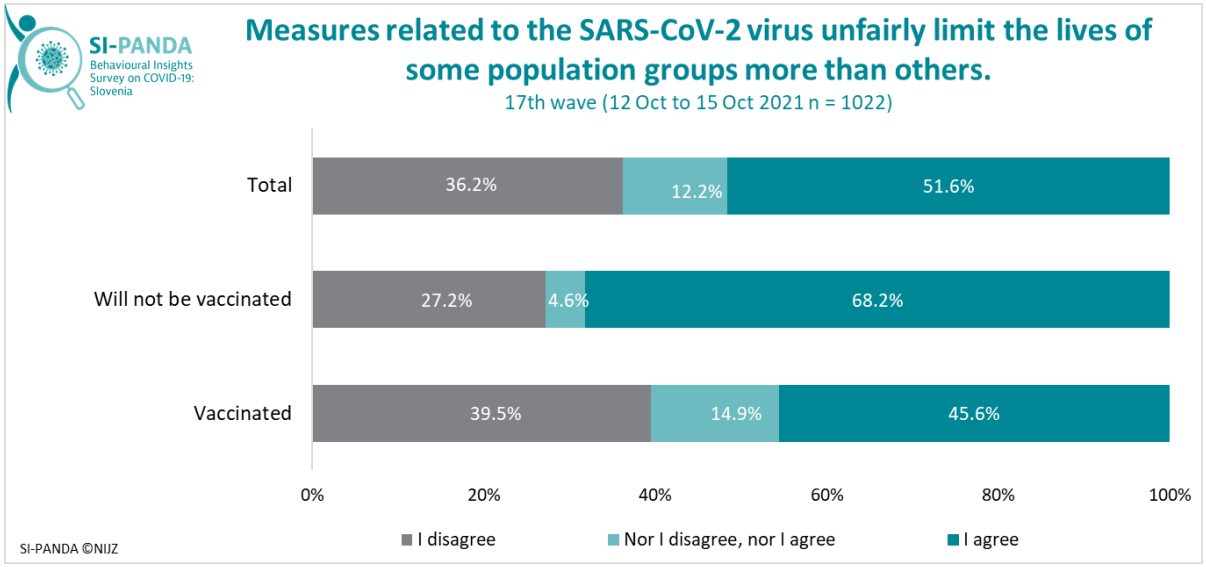


Figure 3: Opinions on whether measures related to SARS-CoV-2 virus unfairly limit the lives of some population groups more than others, total and by vaccination status.

"Recovered, vaccinated, tested" (RVT) rule

Since the 11th wave of the survey, we were interested in what the respondents thought about the availability of services and activities under certain conditions related to SARS-CoV-2 virus or RVT condition. 49.7 percent of respondents believe that vaccinated people should generally be subject to less stringent restrictions than unvaccinated ones – the largest share of respondents with such opinion is among those in the 65-74 age group (Figure 4).

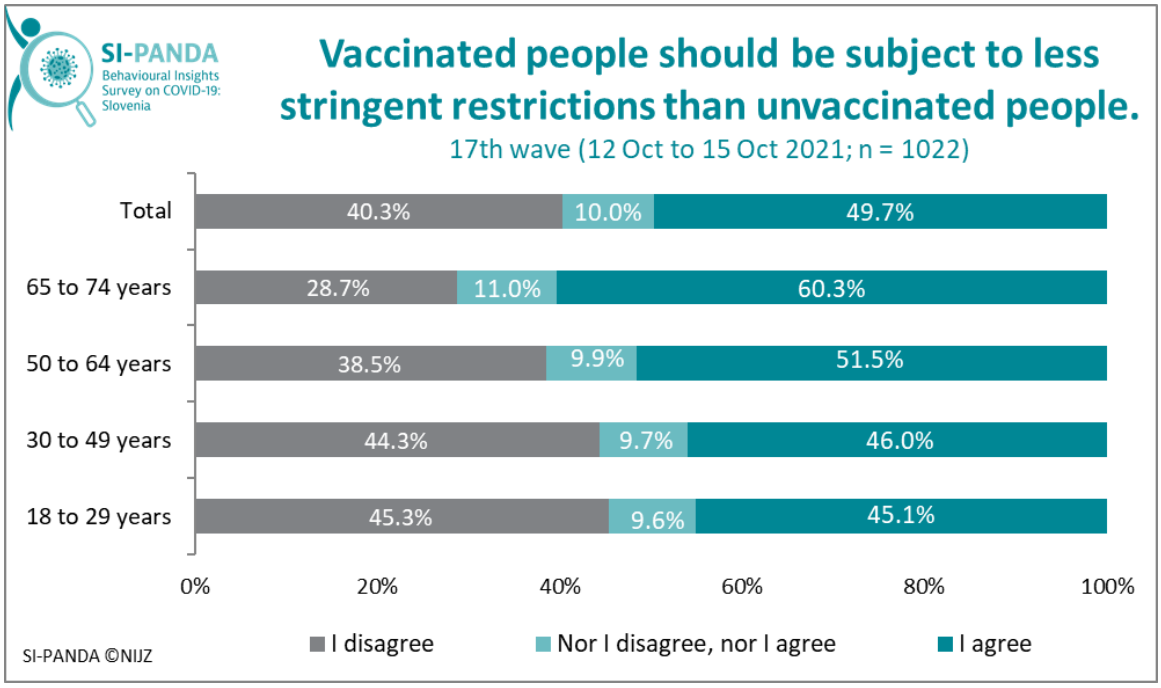


Figure 4: Opinion on the fact that vaccinated people should be subject to less stringent restrictions than unvaccinated ones, total and by age groups.

More than 40.0% of respondents believe that all services and activities should be available without any evidence on vaccination, recovery or negative test. Half of those under the age of 50 want access to services without any evidence (Figure 5). In part, this may be related to lower vaccination rate among younger people and a higher share of those who do not intend to be vaccinated in the youngest age groups (data from previous research waves).

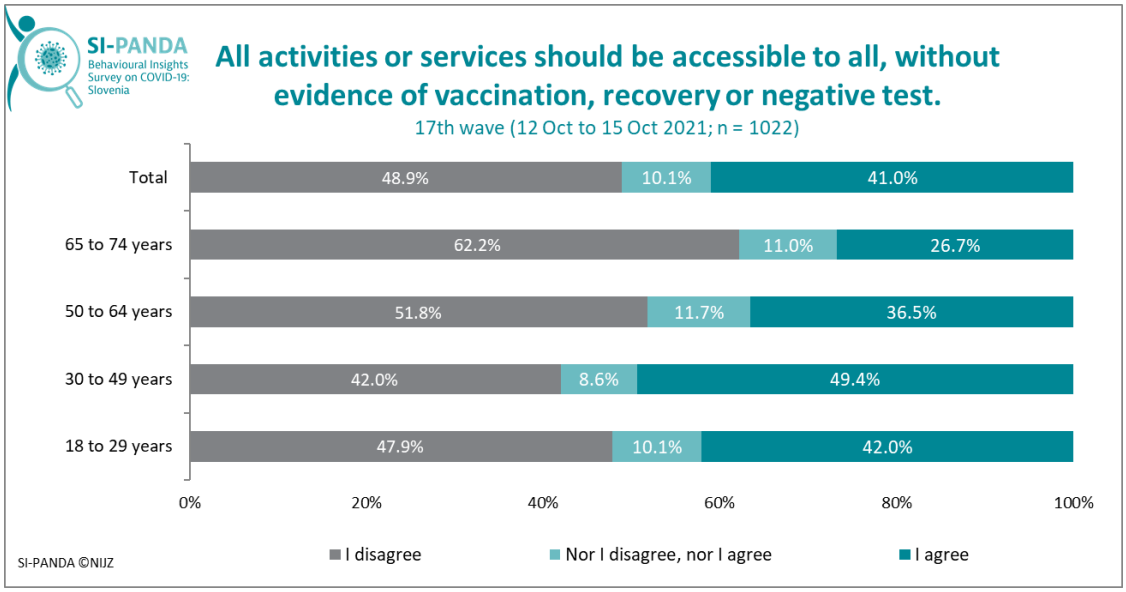


Figure 5: Respondents' opinion on whether all activities and services should be accessible to all, without any RVT evidence, total and by age groups.

If we compare respondents with regard to vaccination status, among those who do not intent to be vaccinated, the share of those who believe all services and activities should be accessible without any COVID-19-related evidence is the largest.

In the 17th wave, we asked the respondents to what extent they support meeting the RVT condition as users of the listed services or activities. To the greatest extent, the respondents support meeting the RVT condition when visiting theatres or cinemas, watching live sports events and when visiting the tourist accommodations (Figure 6). Respondents least agree with the need to meet the RVT condition when visiting a doctor and dentist (30.4%) and when visiting gas stations (28.8%).

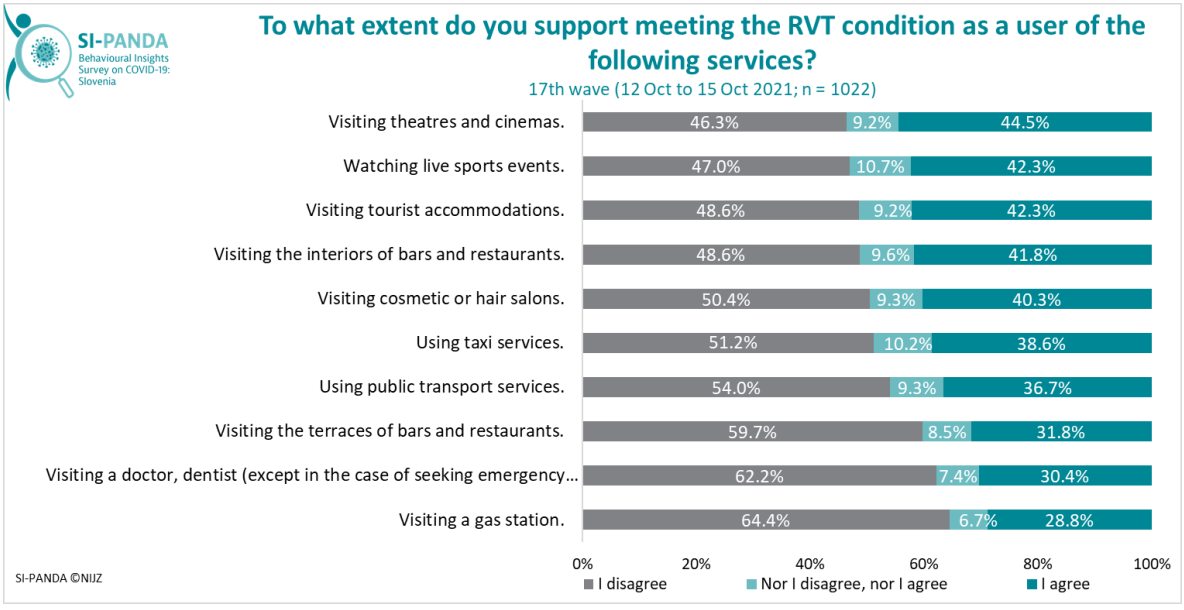


Figure 6: Supporting meeting the RVT condition as a user of various services, total.

For all listed services or activities, respondents from the oldest age group (65-74 years) agree in the largest share with the need to meet the RVT condition, while, as expected, respondents from both youngest age groups, ie. respondents up to 49 years of age agree with it in the smallest share.

Support for meeting and checking the RVT condition in the workplace varies greatly among respondents according to their vaccination status. Around seven times more respondents who are vaccinated than those who are not vaccinated support meeting and checking the RVT condition in the workplace. Overall, respondents express slightly greater support for meeting (44.8%) than checking (41.3%) the RVT condition in the workplace (Figure 7).

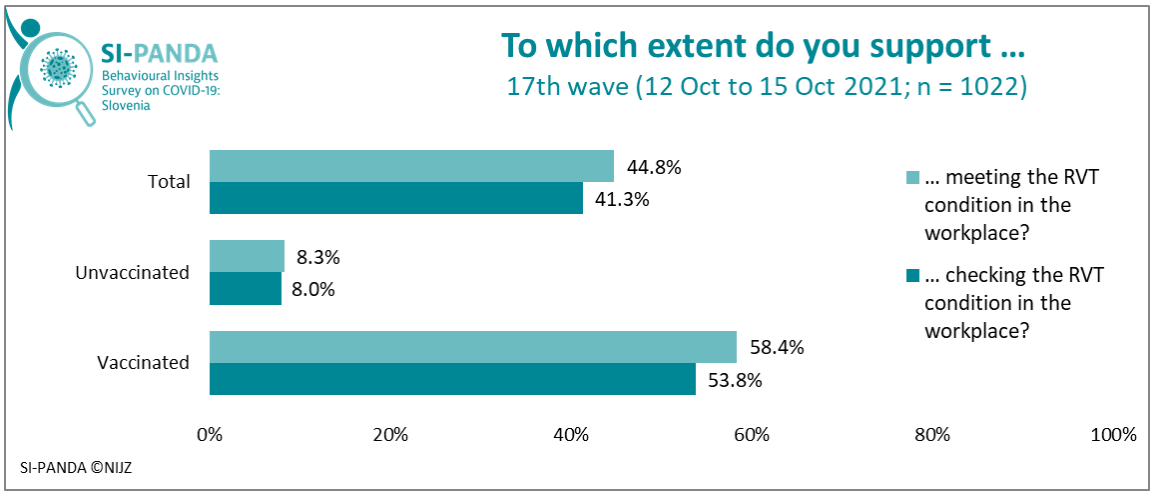


Figure 7: Supporting meeting and checking the RVT condition in the workplace, total and by vaccination status.

In the 17th wave of the survey, we also asked about the support for the introduction of the RV rules for employees in certain fields of work, or for all adult residents. The largest share of respondents supports the introduction of the RV condition for employees in the health sector (52.7%), in the age group of 65 to 74 years as many as 71.4% of respondents would support this introduction (Figure 8).

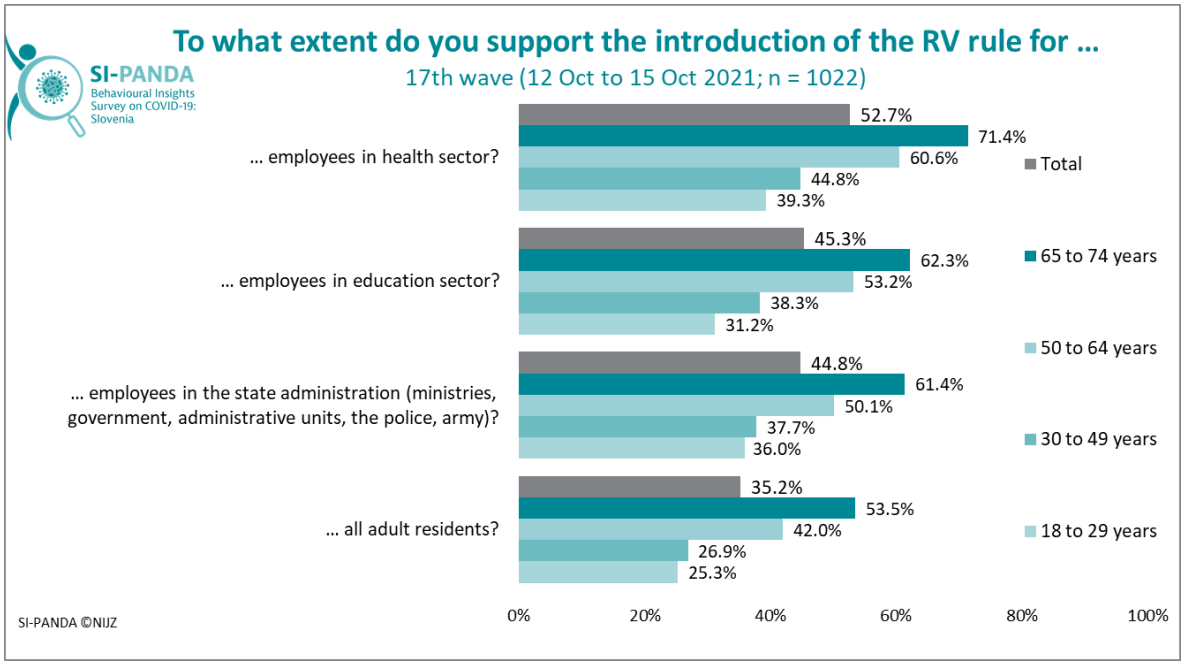


Figure 8: Supporting the introduction of the RV rule for employees in the listed fields of work or for all adult residents, total and by age groups.

There are large differences in support for the introduction of RV rule between those who are vaccinated and those who will not be vaccinated. Even those who will not be vaccinated mostly support the introduction of RV rule for employees in the health sector (Figure 9).

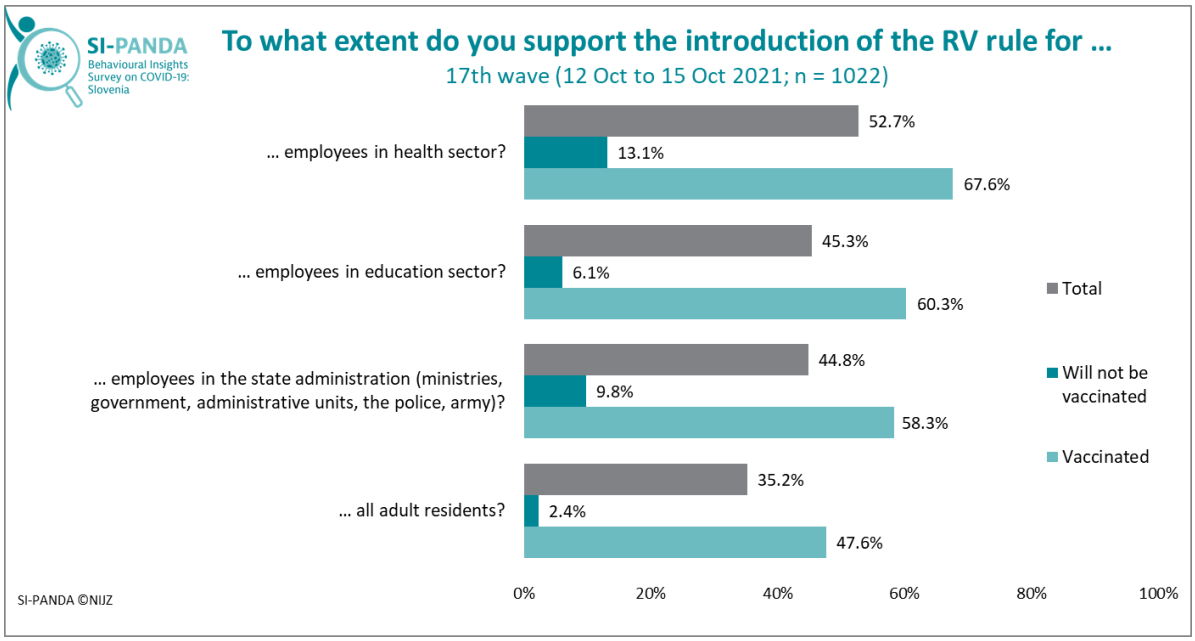


Figure 9: Supporting the introduction of the RV rule for employees in the listed fields of work or for all adult residents, total and by vaccination status.

We also asked the respondents whether they think that vaccination against COVID-19 should be mandatory for employees in certain fields of work or for all adults. Here, too, the largest share of respondents supports the introduction of mandatory vaccination for employees in the health sector (54.0%), followed by employees in education and training (46.2%). As expected, there are

large differences in opinion between those who are vaccinated and those who will not be vaccinated (Figure 10).

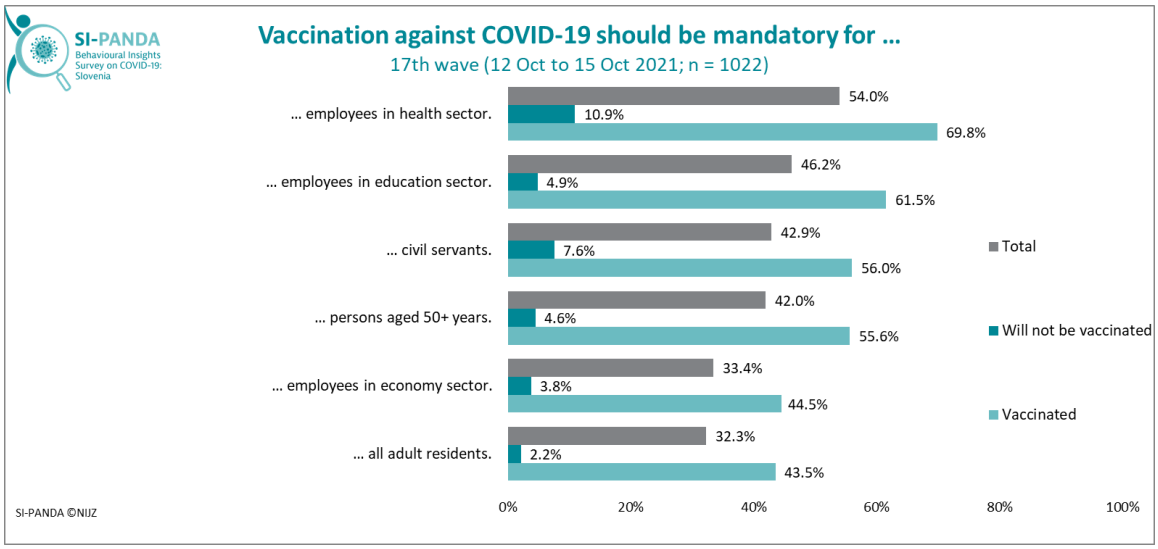


Figure 10: Supporting mandatory vaccination against COVID-19 for employees in certain fields of work or for all adult residents, total and by vaccination status.

Supporting the possible measures

In the 17th wave of the survey, we asked the respondents on the support of some possible measures that could come into force in the event of a worsening of the epidemiological situation. In the largest share (43.0%), respondents would support the introduction of supervision over the implementation of at home quarantine, and a fifth would also support the restriction on gathering of up to 25 people by following the NIJZ instructions (Figure 11). The least support (7.8%) would be given to restriction of movement within municipalities. Respondents were asked about the same possible measures in the 10th wave of the survey (in early April 2021), when complete lockdown was in force in Slovenia; at that time, respondents were much more supportive of these possible measures.

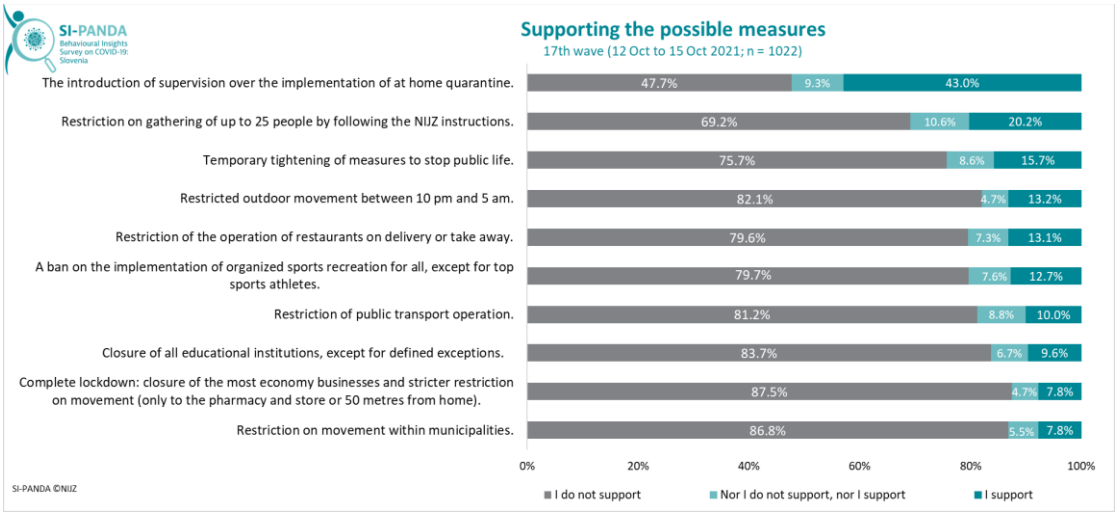


Figure 11: Supporting the possible measures, total.

Support for most possible measures to curb the spread of the SARS-CoV-2 virus also decreased slightly compared to the previous wave of the survey. In the 17th wave of the survey, 2.6 percentage points fewer respondents than in the 16th wave of the survey would support the introduction of supervision over the implementation of at home quarantine, and 4 percentage

points fewer respondents than in the 16th wave of the survey would support the restriction on gathering of up to 25 people by following the NIJZ instructions (Figure 12).

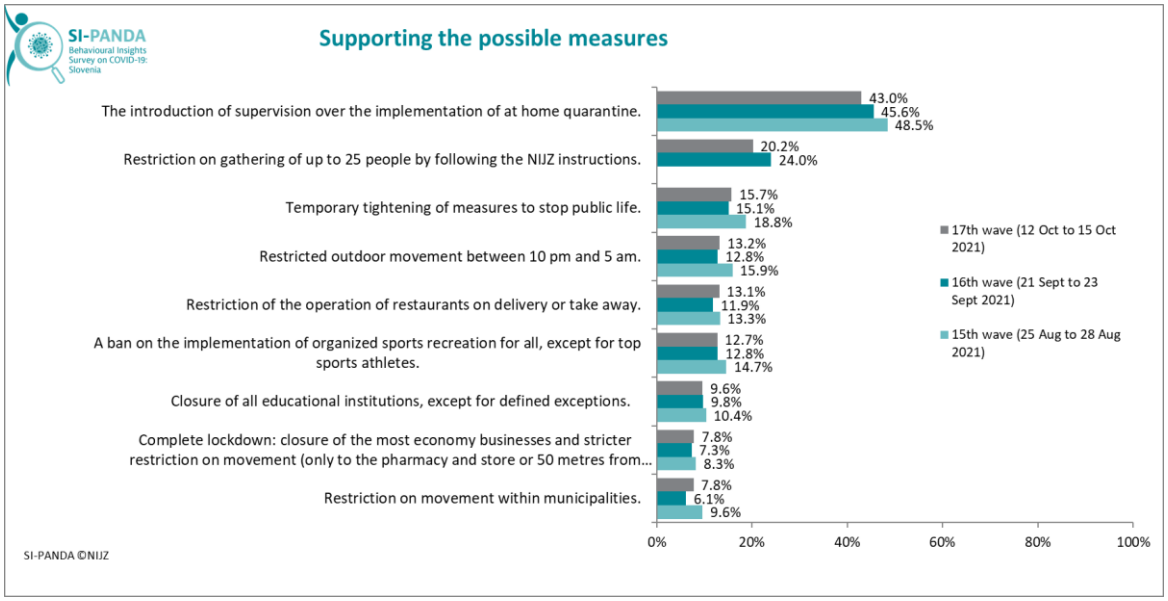


Figure 12: Supporting the possible measures, total and by survey waves.

Trust in persons and institutions to manage the pandemic adequately

Throughout the survey waves, respondents trust their personal physicians the most in terms of proper pandemic management – the average confidence on the 7-point scale in the 17th wave is 5.1. This is followed by trust in hospitals and trust in employers with an average of 4.8 (Figure 13).

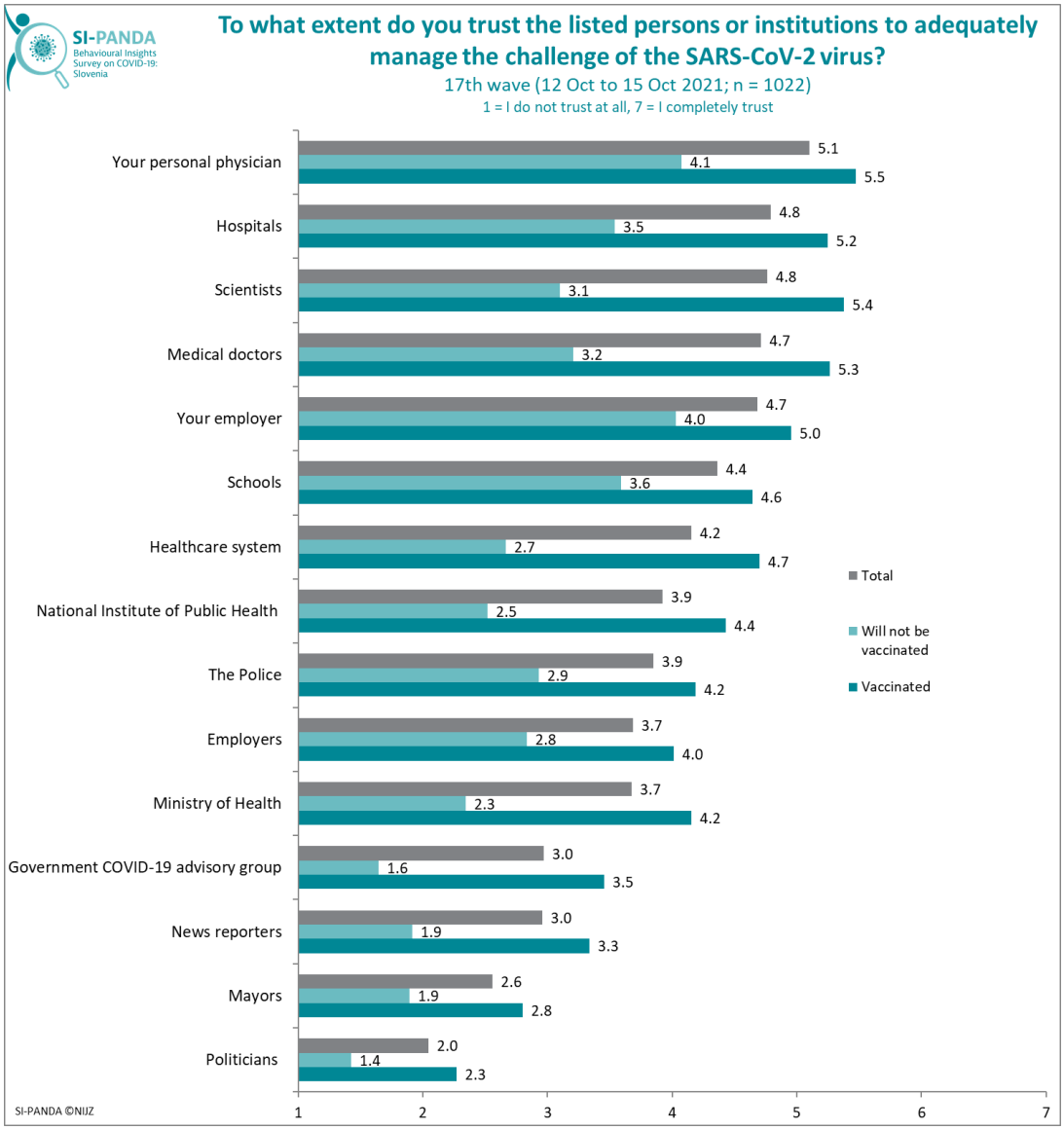


Figure 13: Trust in persons and institutions to manage the pandemic adequately, total and by vaccination rate.

People who have already been vaccinated with two doses of COVID-19 vaccine, characteristically have more confidence in all the above persons or institutions than those who will not be vaccinated (Figure 13). Both, vaccinated and those who do not intend to be vaccinated, have the least trust in politicians, and everyone has a very low level of trust in the government COVID-19 advisory group, news reporters and mayors. There is a significant difference between the vaccinated and those who will not be vaccinated regarding trust in the NIJZ, which is almost twice as low for those will not be vaccinated.

Vaccination

Data from the 17th wave of the survey show that over 70% of respondents have already been vaccinated with 59.8% of people already receiving two doses of the vaccine and 12.2% receiving one dose of the COVID-19 (Figure 14). 1.3% of respondents have already received the third (booster) dose of the vaccine. 22.6% of respondents in the 17th wave of the survey state that they do not intend to get vaccinated – the share of these persons has decreased compared to the previous wave of the survey; 4.1% of respondents did not get vaccinated due to medical reasons. Women (25.8%) are less in favour of vaccination than men (19.6%) (Figure 14).

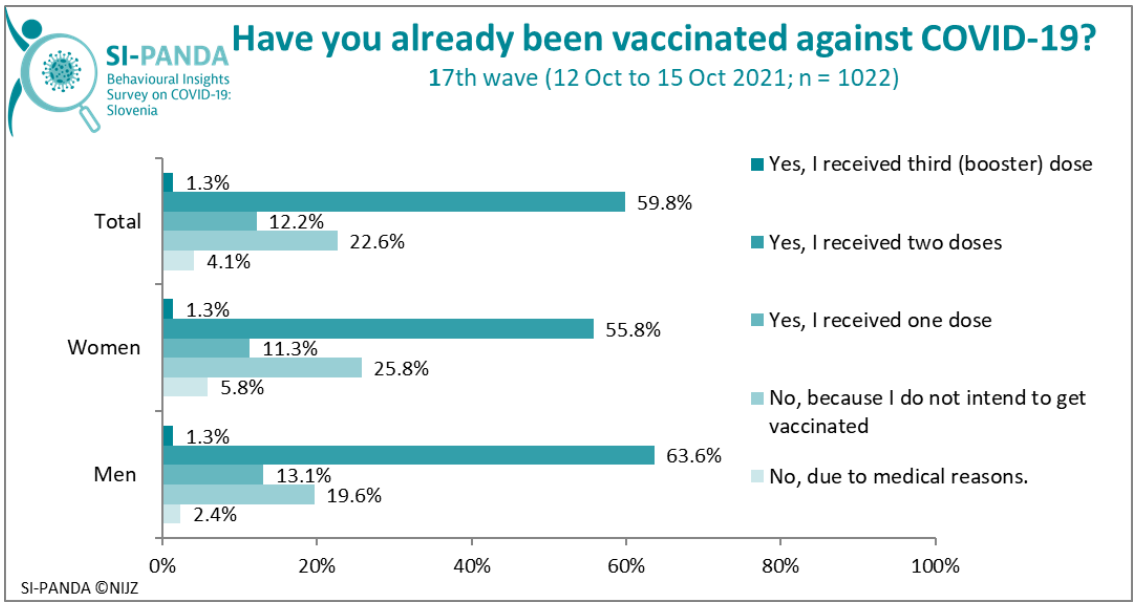


Figure 14: Vaccination against COVID-19, total and by gender.

The share of vaccinated persons (with one or two doses of COVID-19 vaccine) among the oldest group of respondents (65-74 years) already reached 85.2% (Figure 15). The share of those who do not intend to be vaccinated is the highest in the two youngest age groups, in which a little less than one third of people share such an opinion.

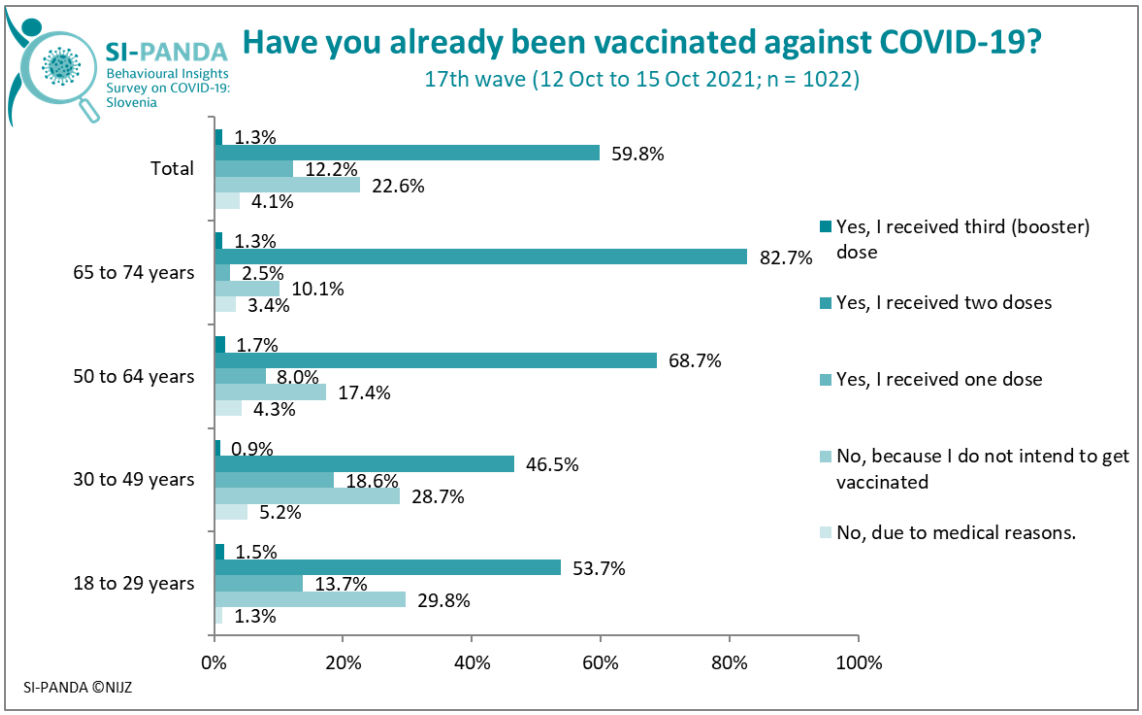


Figure 15: Vaccination against COVID-19, total and by age groups.

If we compare the last nine waves of the survey, we can see that the share of people who have already received both doses of the vaccine is steadily increasing. The share of people who do not intend to be vaccinated is 22.6% in this wave and is currently the lowest in the last nine waves of the survey (Figure 16).

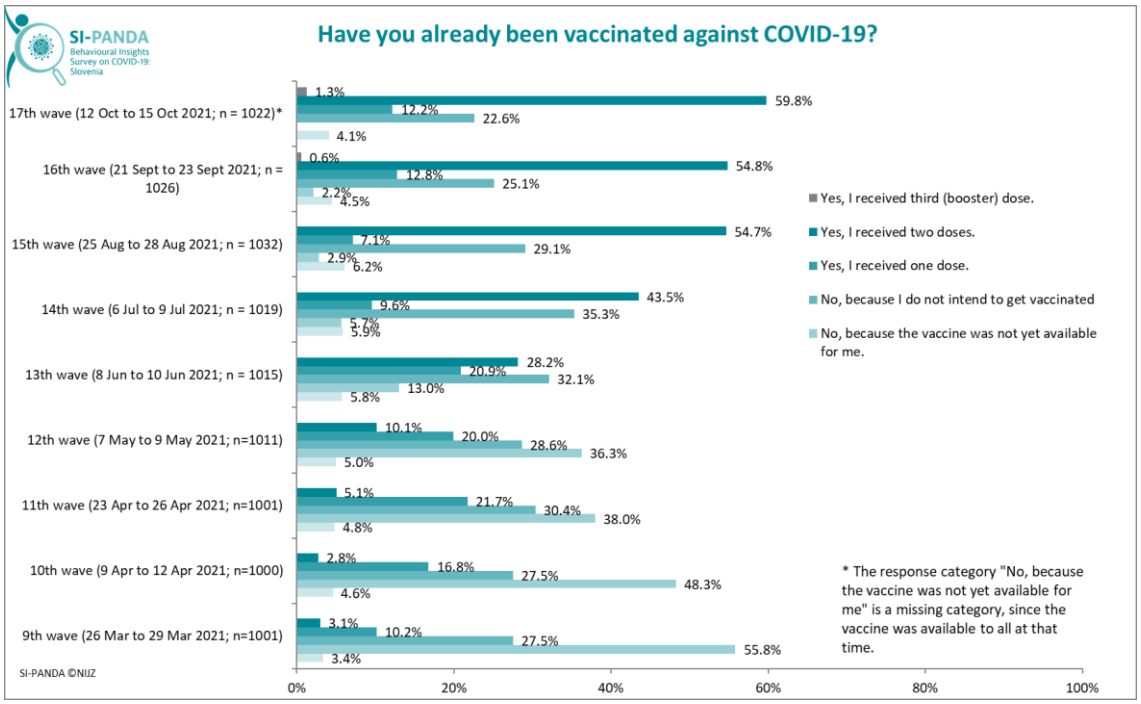


Figure 16: Vaccination against COVID-19, total and by survey waves.

In the 17th wave of the survey, 53.7% of respondents in the 18–29 age group were vaccinated with two doses, which is 21.2 percentage points more than in the 14th wave of the survey. A similar upward trend in the number of vaccinated persons was observed in the 30–49 age group, where the share of people vaccinated with two doses of vaccine increased by 16.6 percentage points in the 17th wave compared to the 14th wave (in the 14th wave: 29.9%; in the 17th wave: 46.5%).

In this wave of the survey, we also asked the respondents a few questions to determine the level of preparedness for vaccination against COVID-19 on a 7-point scale, or the level of rejection of it. Men in the oldest age group were the most prepared to vaccinate (average 4.9 on a 7-point scale), while the vaccination is mostly rejected by women in the 30–49 age group (average 3.5 on a 7-point scale) (Figure 17).

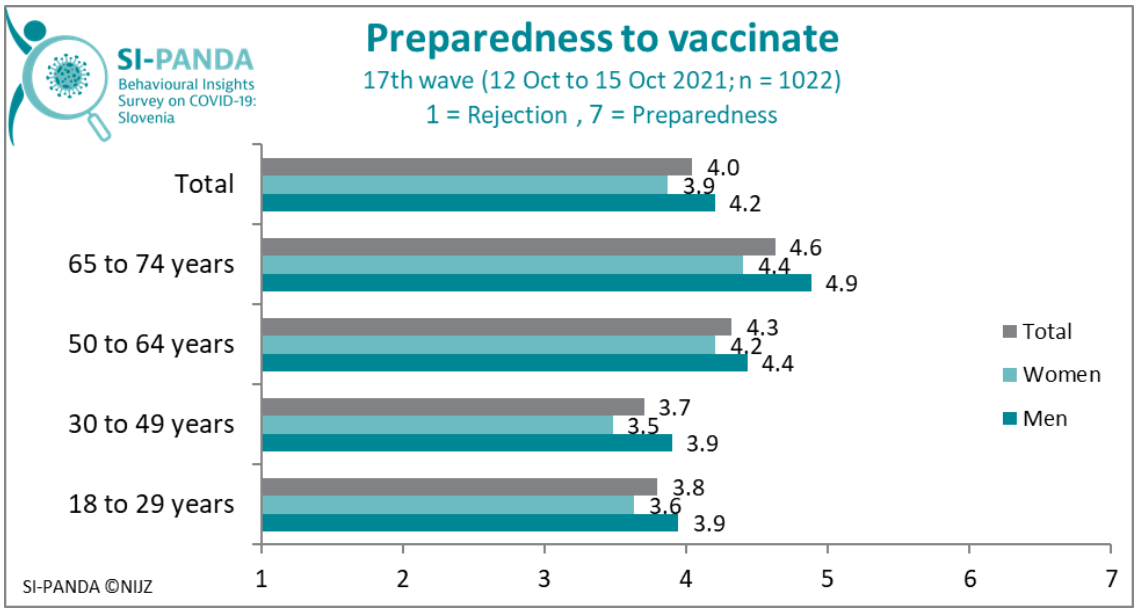


Figure 17: Preparedness to vaccinate against COVID-19, total, by gender and by age groups.

When asked what the decision to vaccinate depends / will depend on, respondents most agree on average that their decision to vaccinate depends / will depend on whether enough data is / will be available that the vaccine is safe (in the 17th wave, the average value on a 7-point scale is 4.5), whether sufficient data is / will be available on whether the vaccine is effective (4.4), and whether high vaccination rate will lead to the restriction on movement and socializing in groups (4.2) (Figure 18).

However, if we look at what the decision to vaccinate will depend on among those who have already been vaccinated, the main reason for the decision to vaccinate was whether higher vaccination rate will lead to the release of restriction on movement and socializing in groups (5.0), while among those who will not be vaccinated[3], the decision on vaccination depended the most on whether there is sufficient data that the vaccine is safe (4.2) (Figure 18). According to the results, releasing restrictions on movement and socializing in groups is less important for those who do not intend to be vaccinated than for those who have already been vaccinated.

[3] Do not intend to be vaccinated or will not be vaccinated due to medical reasons.

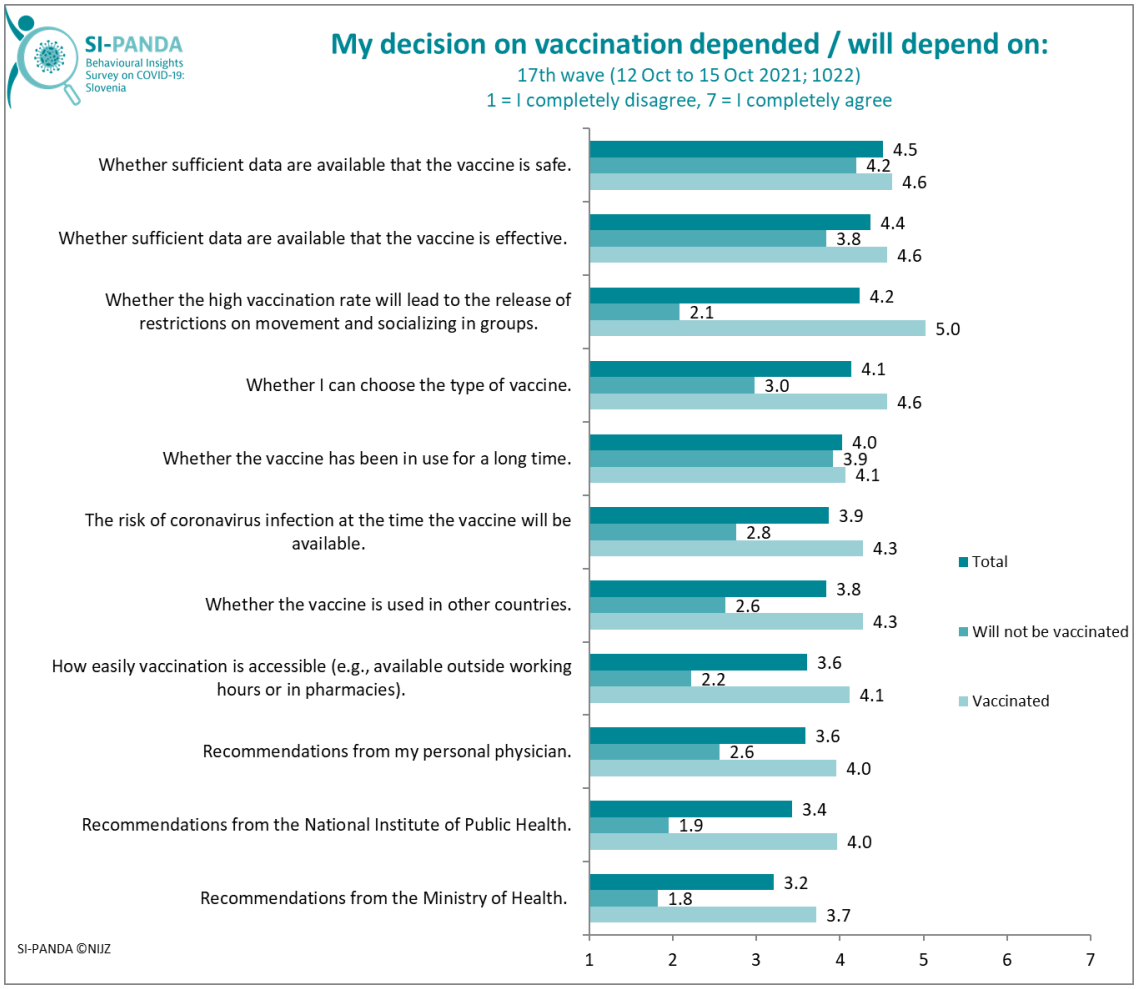


Figure 18: Reasons for the decisions to vaccinate, total and by vaccination rate.

In the 17th wave of the survey, we also asked the unvaccinated respondents (respondents who do not intend to be vaccinated or were not vaccinated due to medical reasons or were not vaccinated because vaccine was not yet available for them) for more detailed reasons why they do not intend to be vaccinated. Concerns about the side effects after vaccination, concern about long-term health effects, and opinion that too much pressure is being put on vaccination are among the main reasons. The latter reason for the decision against vaccination (64.8%) prevails over the opinion that the vaccine is not safe (64.4%), which indicates major shortcomings in proper communication with the public regarding vaccination. Almost a quarter of respondents felt that SARS-CoV-2 did not pose a risk to their health (Figure 19).

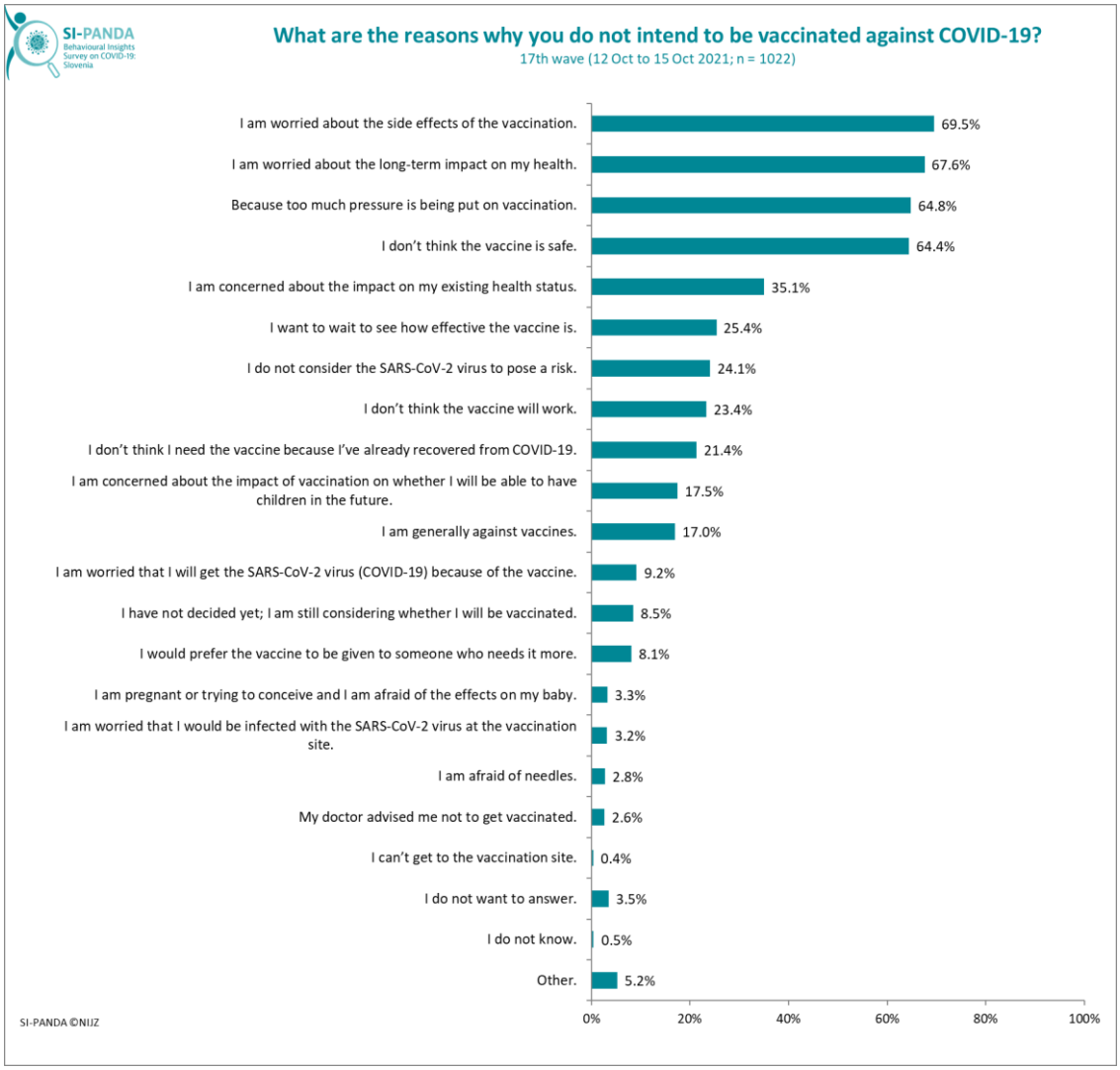
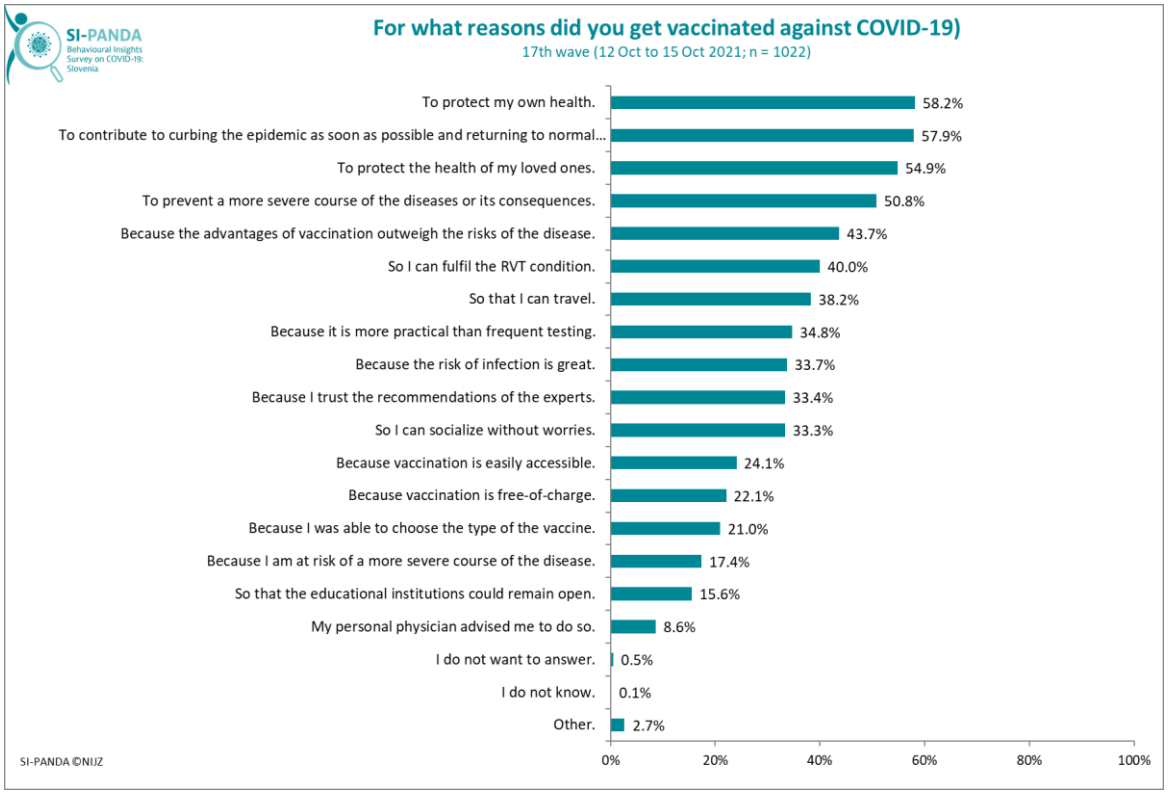


Figure 19: The reasons why respondents do not intend to vaccinate against COVID-19, total.

Respondents who have already been vaccinated reported that they decided to get vaccinated mainly to protect their own health (58.2%), contributing to curbing the epidemic as soon as possible (57.9%) and protecting the health of their loved ones (54.9%) (Slika **20**).



Slika 20: Reasons for the decisions to vaccinate, total

The impact of the pandemic on lifestyle and some other areas of life

In the 17th wave of the survey, 33.5% of respondents reported spending more time in front of a television, computer, or other electronic devices in the last 2 weeks than before the pandemic; a particularly high share of these persons was among the youngest respondents (aged 18 to 29), namely more than half of them (54.1%). The youngest age group of respondents reported in highest shares, as throughout the survey, other unhealthy lifestyle habits in the last 2 weeks. Thus, compared to other age groups, they were the least physically active (36.7%), avoided visiting a doctor due to a problem not related to SARS-CoV-2 virus (37.2%), ate more unhealthy food (29.6% of respondents aged 18 to 29), and smoked more (25.6%) than before the pandemic (Figure 21).

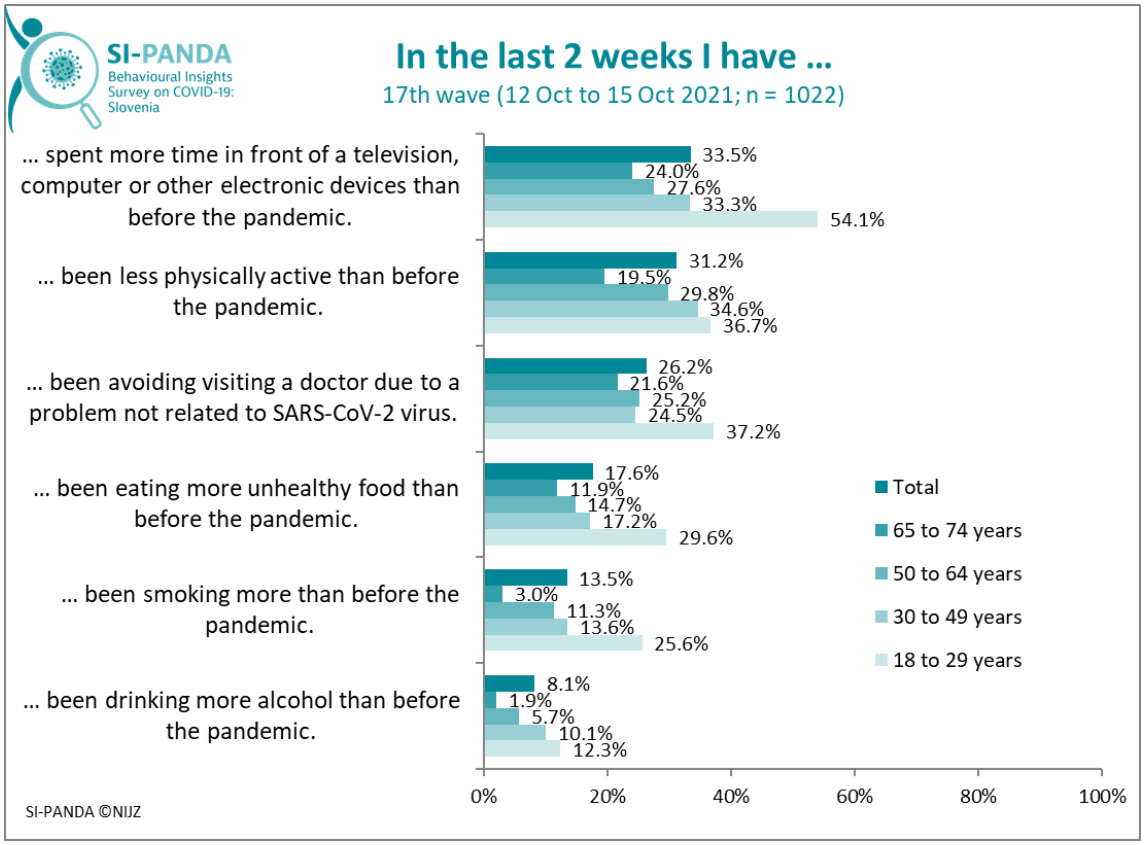


Figure 21: The impact of the pandemic on lifestyle in the past 2 weeks, total and by age groups.

If we compare all the waves of the survey, the lifestyle has improved the most in the field of physical activity – a decreasing share of people reported that they were less physically active in the last 2 weeks; the share decreased by 13.6 percentage points since the beginning of the survey.

Since the 13th wave of the survey onwards, we have also asked the respondents about the time spent in front of electronic devices – this factor is currently predominant in terms of deterioration compared to the time before the pandemic.

In the 17th wave of the survey, respondents were also asked about the impact of the pandemic on individual areas of life. As expected, the largest share (54.8%) of people reported that the

pandemic had a negative impact on their social contacts with extended family and friends, followed by a negative impact on financial security (36.2%) and on physical activity (deterioration was reported by 32.3% of respondents) (Figure 22).

On the other hand, those who reported the positive impact of the pandemic, for the most part observed this impact in the area of physical activity and this time also in the area of family relationships, which can be explained by the fact that they may have had more time for these activities and for their loved ones, because other activities, in which they would otherwise engage, were severely curtailed during the pandemic.

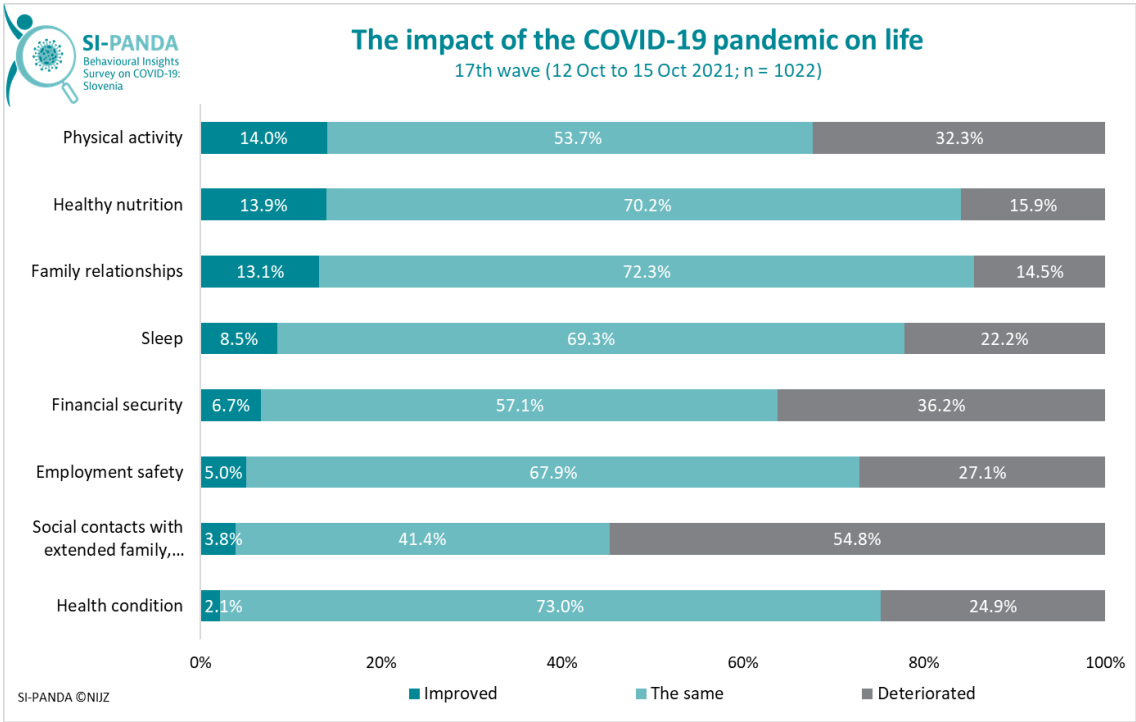


Figure 22: The impact of the COVID-19 pandemic on areas of life, total.

Experiencing stress

In prolonged emergencies and uncertainties, such as an epidemic, the experience of stress usually increases, but there may also be an immediate adjustment, especially if the stressors remain at a similar, albeit higher, level or increase gradually[4].

In the 17th wave of the survey, respondents were asked about how often they felt tense, stressed or under a lot of pressure in the last 14 days. A quarter of respondents (21.7%) experienced stress daily or often, most often in the age groups 18 to 29, and 30 to 49 where the share was 27 percent (Figure 23). This share has declined slightly since the last wave of the survey (Figure 24), namely for 8 percentage points in the youngest age group. The frequency of experiencing stress decreases with age and is the lowest in the oldest age group, namely 6.9%. However, the distribution of frequencies by age groups remains approximately the same in all survey waves.

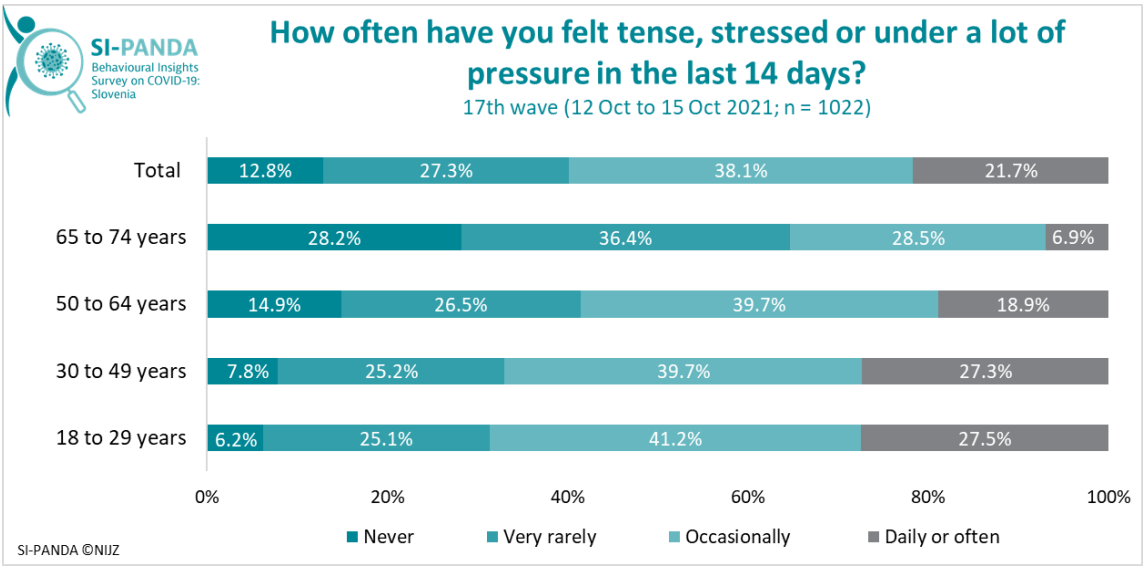


Figure 23: Frequency of experiencing stress in the last 14 days, total and by age groups.

[4] (Fu S, Greco LM, Lennard AC in Dimotakis N. Anxiety responses to the unfolding COVID-19 crisis: Patterns of change in the experience of prolonged exposure to stressors. Journal of Applied Psychology 2021; 106(1): 48.

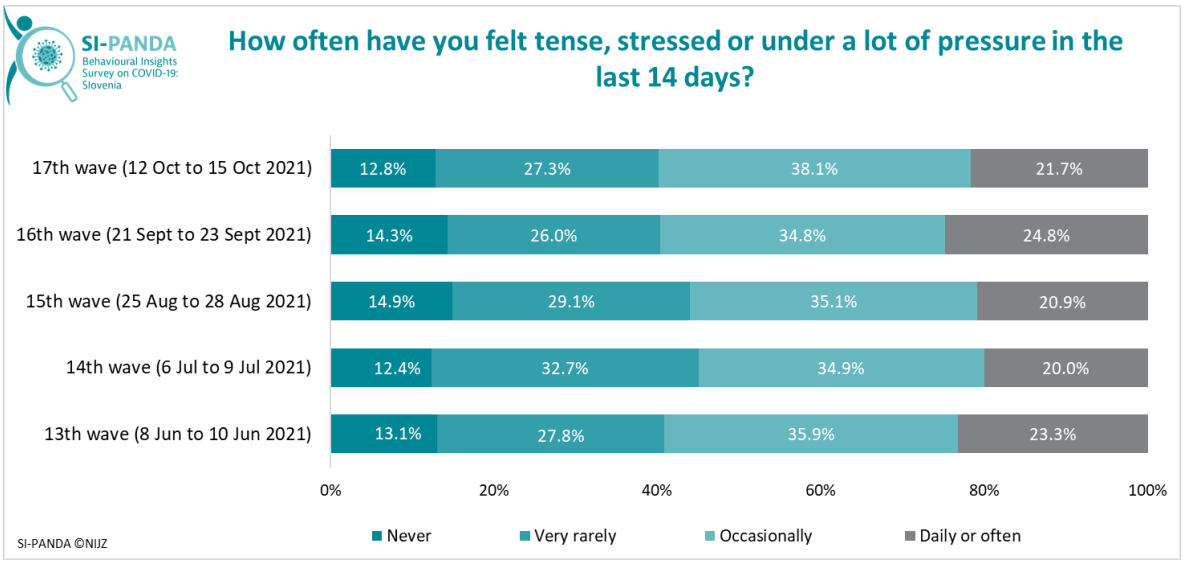


Figure 24: Frequency of experiencing stress in the last 14 days, total, by survey waves.

Stress is more often experienced by women, i.e., it is experienced daily or often by 26% of surveyed women and by 17.7% surveyed men. Similar results were obtained in the CINDI 2020 survey and in foreign studies[5].

Stress is, as expected, experienced more often by respondents who show signs of depressive disorder, namely by more than two thirds (68.4%) compared to those with mental health problems (35.9% experience stress daily or often) and those without mental health problems (only 7.1% experience stress often or daily) (Figure 25).

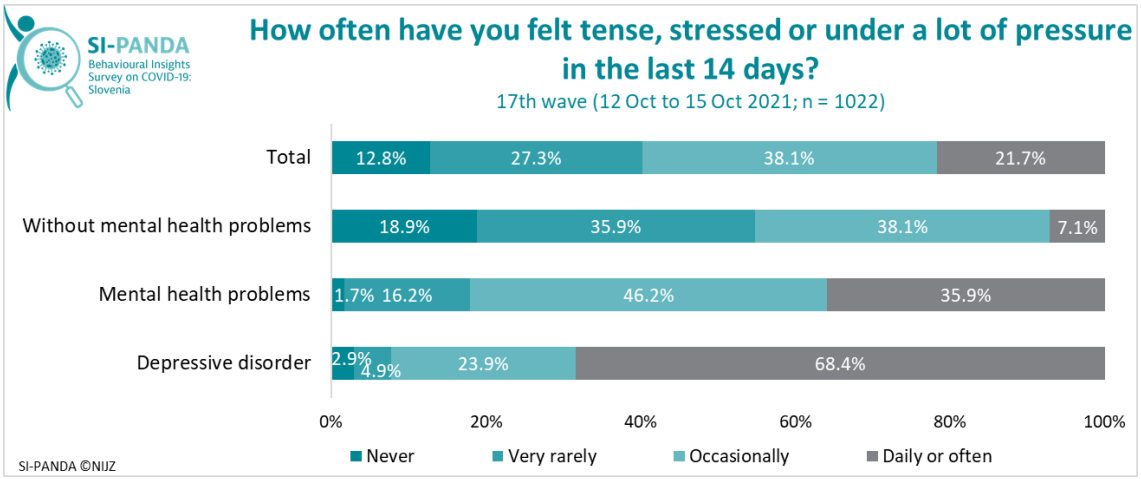


Figure 25: Frequency of experiencing stress in the last 14 days, total and by mental health problems.

[5] Kowal, M., Coll-Martín, T., Ikizer, G., Rasmussen, J., Eichel, K., Studzińska, A., Koszałkowska, K., Karwowski, M., Najmussaqib, A., Pankowski, D., Lieberoth, A. and Ahmed, O. (2020), Who is the Most Stressed During the COVID-19 Pandemic? Data From 26 Countries and Areas. Appl Psychol Health Well-Being, 12: 946-966. https://doi.org/10.1111/aphw.12234.

Respondents cited workload as the most common reason for stress in the last three waves of the survey (39.3% in the 17th wave). This is followed by concerns about the uncertain financial future (35.3%) and concerns about untrue information about SARS-CoV-2 virus, which has decreased slightly in the 17th wave (37.1% in the 16th wave and 34.1% in the 17th wave) (Figure 26).

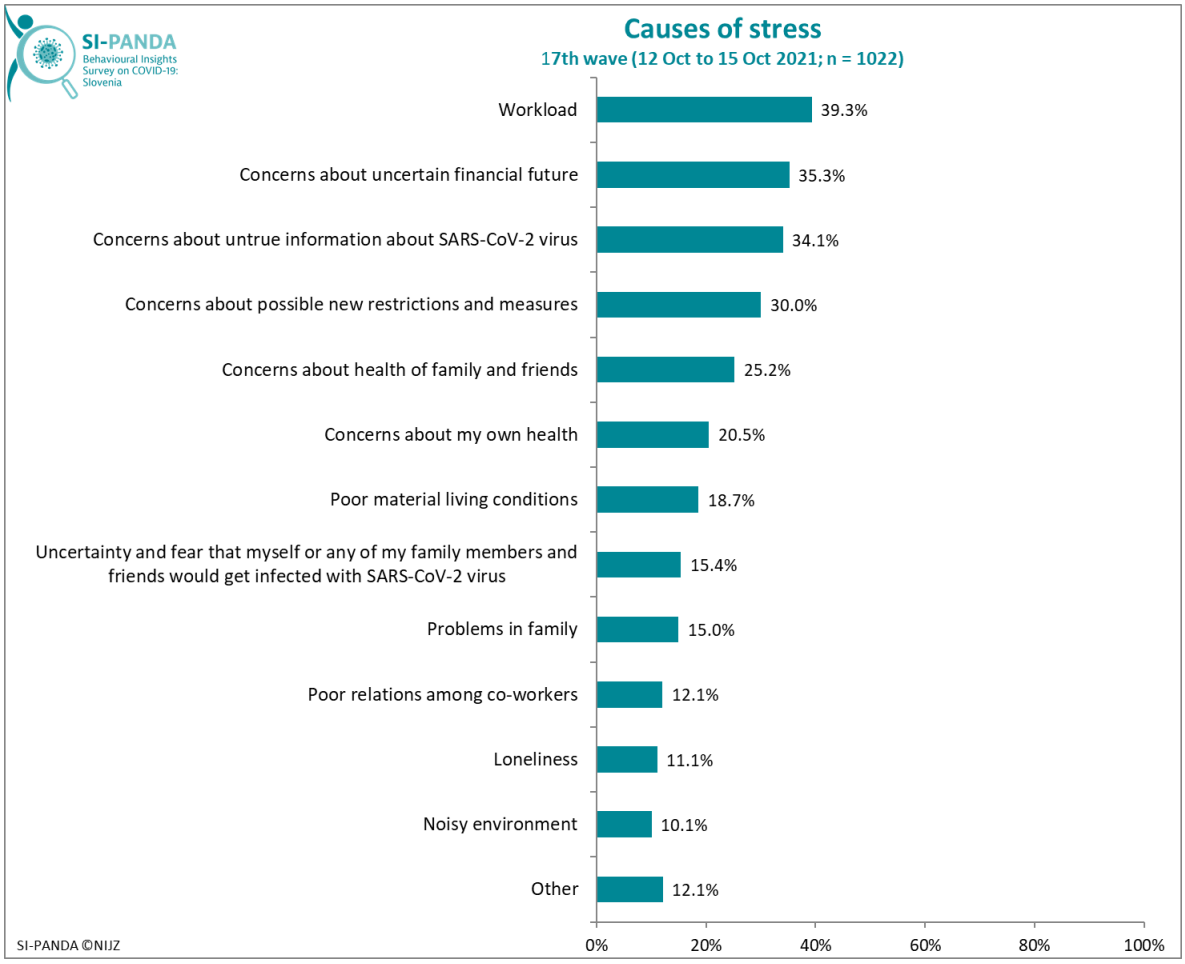


Figure 26: Causes of stress, total.

Loneliness was cited as a cause of stress by 11.1% of respondents, and the share is once again slightly lower among women in this wave compared to men (10.0% compared to 12.1%). The share of people concerned about loneliness has not changed significantly in the last three waves, but the youngest respondents (18 to 29 years) expressed the highest level of such concern, namely in 17th wave of the survey, namely more than one fifth of these respondents were concerned about loneliness.

The share of people who are concerned about untrue information about SARS-CoV-2 virus has only increased in the oldest age group of respondents in this wave, where it is higher by 7 percentage points compared to the 13th wave of the survey.

The biggest differences between the more and less educated in the causes of stress are in experiencing workloads and poor material living conditions. Respondents with higher educational attainment were more likely to experience stress due to workload and poor relationships with co-workers; respondents with secondary and lower education were more likely to experience stress due to poor material conditions compared to more educated.

Most respondents (82.2%) managed tensions, stress and pressure easily or with some effort, 13.3% had major problems, and 4.5% had severe problems or did not manage stress.

In the 17th wave of the survey, a good half of the respondents (52.9%) reported that they could always or often find a way to relax when they needed to, and 11.8% reported that this happened very rarely or never. In terms of mental health problems, those with signs of depressive disorder very rarely or never found a way to relax (29.3%), followed by those with mental health problems (19.3%) and those without mental health problems (5.5%) (Figure 27).

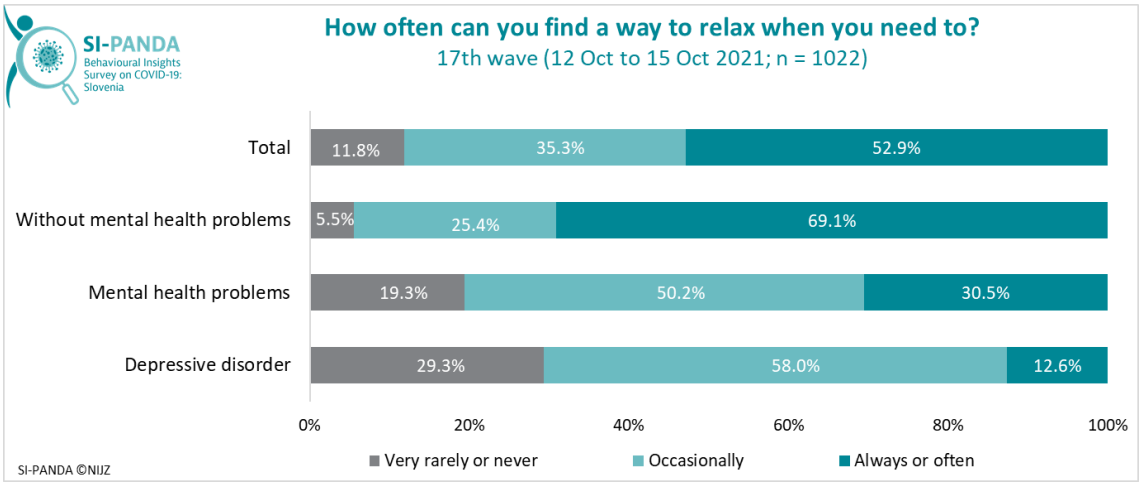


Figure 27: Frequency of relaxation, total and by mental health problems.

Problems after SARS-CoV-2 virus infection recovery – post-COVID syndrome or long COVID

Most people who get COVID-19 recover in a few weeks. But researchers, as well as healthcare professionals, are increasingly finding that in some people, individual symptoms persist for months after the diagnosis, or they disappear and reappear weeks or months after initial recovery. Abroad, these problems have been termed post-acute COVID-19 or long COVID. It is more common among hospitalized and elderly patients, but it also occurs in those who have overcome a milder form of the disease and also among young adults who did not have health problems before the infection[6]. The symptoms of long COVID are varied, e.g., fatigue, shortness of breath, insomnia, memory and concentration problems (i.e., foggy brain), heart palpitations, pain in various parts of body, diarrhoea, nausea, etc.[7]

In the 17th wave of the survey, 23% of respondents report that they are or have been infected with the SARS-CoV-2 virus so far, of which 6.2% report that their infection was asymptomatic, 72.5% report that the course of the disease was mild, in 19.6% the course of the disease was more severe, but did not require hospital treatment, and 1.7% had been treated in the hospital. Respondents who are or have been infected with SARS-CoV-2 virus so far were asked from the 11th wave onwards about possible problems after recovering from SARS-CoV-2 virus infection.

According to the WHO, a quarter of people who become infected with the SARS-CoV-2 virus have some health problems for at least one month after infection, and one in ten patients is thought to have some symptoms after 12 weeks[8]. Therefore, we were interested in whether the subjects who recovered from COVID-19 had or still have one of the symptoms shown below one month after recovering from SARS-CoV-2 virus infection (Figure **28**).

We can find that in 17th wave most people (66.0%) still had some problems[9] one month after recovering from the infection. The most common problems were malaise, fatigue and lack of energy, reported by one third of recovered patients; just under a third of respondents reported problems with the perception of taste and smell; almost a fifth reported problems with concentration and memory; and almost a fifth reported headache. Further they reported sleep disorders, muscle and joint pains, chest pains and shortness of breath, unpleasant feelings of fear, sadness, heart palpitations, digestive problems, etc. (Figure **28**). In all seven waves of the survey, the average number of problems is the same (2 problems). The data therefore show that the share of people who have health problems one month after COVID-19 is significant, so it is important that the health status of patients is monitored for a longer period of time

[6] Brackel, CLH, Lap, CR, Buddingh, EP, et al. Pediatric long-COVID: An overlooked phenomenon? Pediatric Pulmonology. 2021; 56: 2495– 2502. https://doi.org/10.1002/ppul.25521.
[7] Nalbandian, A., Sehgal, K., Gupta, A. et al. Post-acute COVID-19 syndrome. Nat Med 27, 601–615 (2021). https://doi.org/10.1038/s41591-021-01283-z.
[8] WHO Policy brief 39 In the wake of the pandemic, Preparing for Long COVID, https://apps.who.int/iris/bitstream/handle/10665/339629/Policy-brief-39-1997-8073-eng.pdf.
[9] In the 17th wave of the survey, headache and cough were added to the possible answers. .

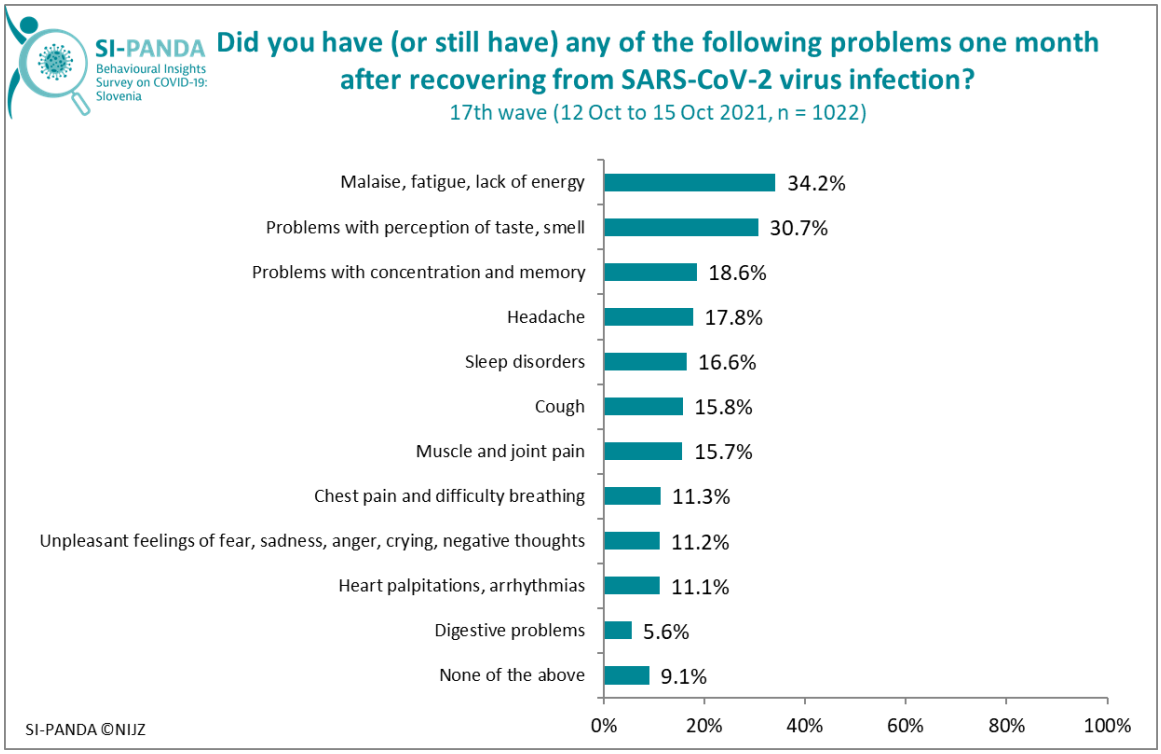


Figure 28: Health problems one month after the respondents had already recovered from SARS-CoV-2 virus infection, total.

Comparisons of the last six waves show that the share of people with one problem has risen by around 10 percentage points from the 11th to the 15th wave, while in the 16th wave it dropped to the lowest share so far (47.6%), and in the 17th wave has risen again to 58.4%. The share of those with two problems is 11.2% in the 17th wave and has decreased by almost five percentage points since the last wave of the survey. In the 17th wave, the share of people with three or four problems decreased as well (Figure 29).

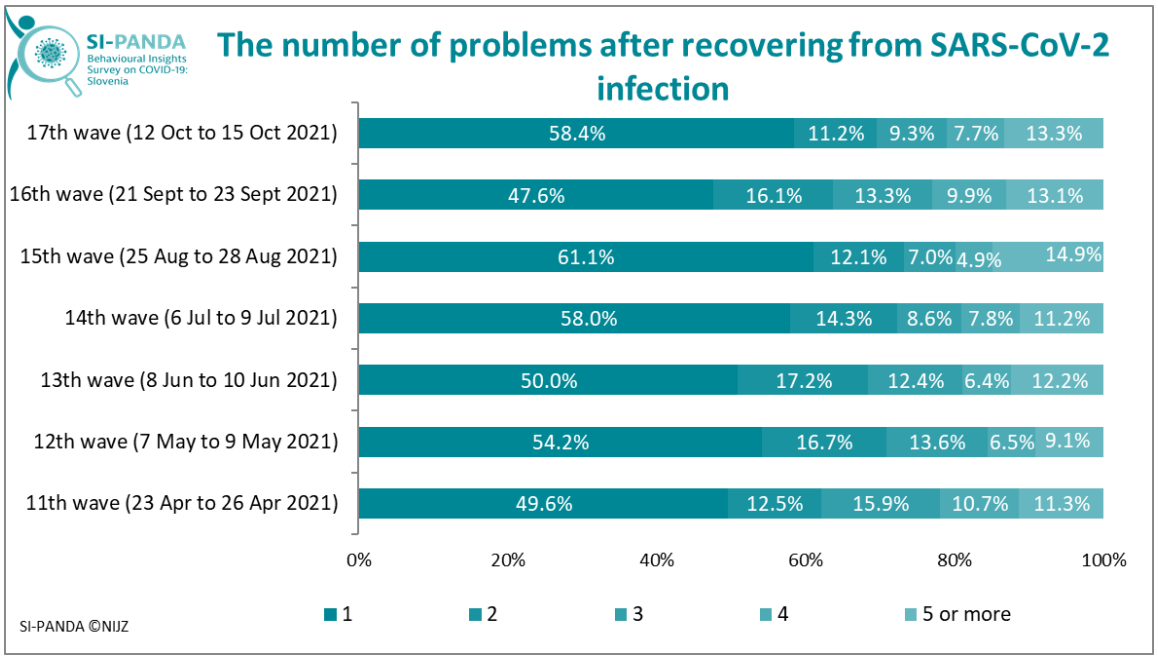


Figure 29: The number of problems after recovery from SARS-CoV-2 infection, total, by survey waves.

Surprisingly a large share of persons does not consult a doctor about problems after recovery from COVID-19. In the 17th wave there were 70.2% such respondents.

When asked how long the problems lasted after the recovery from infection, most of them (46.9%) answered that 3 months and more, 27.8% answered that the problems lasted from 1 to 2 months and 25.3% answered that they lasted up to 1 month (Figure 30). Most respondents (73.1%) answered that the problems affected their work, caring for things at home and relationships with people; 20.4% reported that the problems had a great or an extreme impact on work, care for the home and relationships with people. These persons also consulted a doctor about these problems in the highest share. A quarter of recovered respondents (27.0%) reported that the problems did not affect their daily functioning.

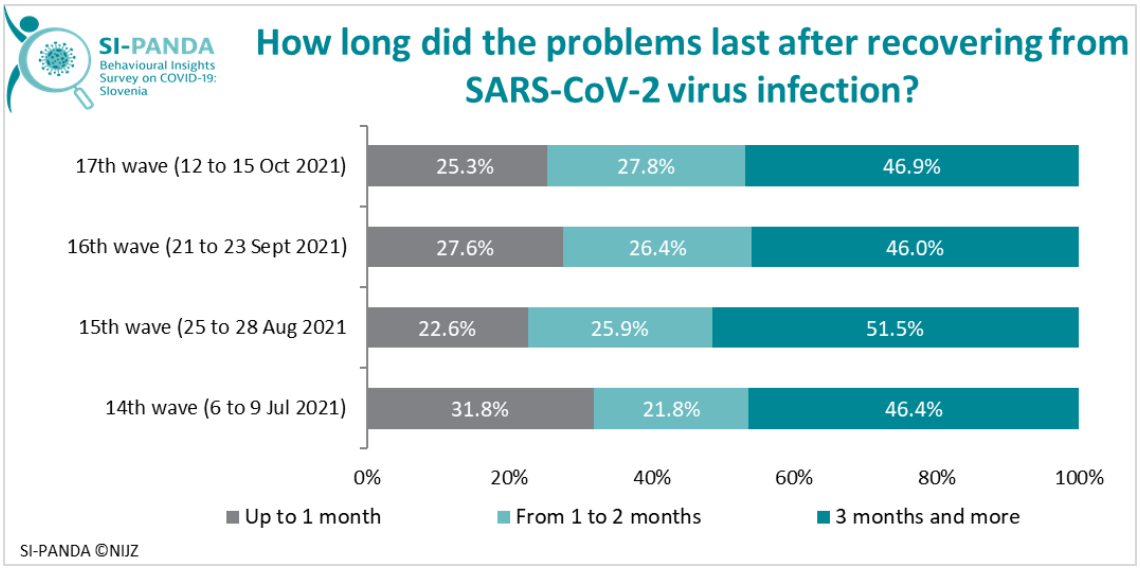


Figure 30: Duration of problems after recovering from SARS-CoV-2 virus infection, total, by survey waves.

Given this, it can be assumed that these are, on the one hand, mild and non-specific health problems, but on the other hand, it is often a rather complex picture, to which the profession is currently not paying enough attention, namely from research and from clinical point of view. There is a lack of clear guidelines for the treatment of people with long COVID and their systematic monitoring.

Much is still unknown about the causes and long-term effects of SARS-CoV-2 infection on humans, but research is underway. It is already clear that long COVID is relatively common and has a significant impact on an individual's ability to work and his or her daily life. All this can have economic consequences for the individual, his family and society. Abroad, many major health centres are already opening specialized clinics to care for people who have permanent symptoms after recovering from COVID-19. Support groups are also available. Patient registries and other types of epidemiological surveillance of long COVID, as well as cohort and other research, are also being established.

Most people with COVID-19 recover quickly. Given that research shows that the risk of long-term health problems after infection with the SARS-CoV-2 virus is not so small, vaccination against COVID-19 is also important in this regard and probably not mentioned enough in the communication about the benefits of vaccination.

Highlighted topic of the 16th wave: Information sources, risk perceptions and emotional responses in relation to SARS-CoV-2

Frequency of using different sources to obtain information about the SARS-CoV-2 virus

Among all respondents, television is the most frequently used source for obtaining information about the SARS-CoV-2 virus – the average frequency of use on a 7-point scale in the 17th wave of the survey is 3.5, whereas 1 means 'never' and 7 means 'very often'. This is followed by doctors with an average of 3.4, friends, acquaintances and relatives with an average of 3.3, radio and nurses with an average of 3.1 and the National Institute of Public Health with an average of 3.0 (Figure 31).

The results of the survey show significant differences between the frequency of use of information sources between vaccinated and unvaccinated respondents. The vaccinated use different sources of information more often that the unvaccinated, with the vaccinated most often using doctors as sources of information (average 3.8), followed by television (3.7), nurses and the National Institute of Public Health (3.4) and radio, friends, acquaintances and relatives (3.3). the unvaccinated most often use friends, acquaintances and relatives as a source of information (average 3.4), followed by television (2.9), social networks (2.6), radio (2.5) and doctors (2.4). the results of the survey show a much higher frequency of using social networks as a source of information among unvaccinated respondents, who, compared to the vaccinated, also use acquaintances, friends and relatives more often as a source of information.

In light of he established frequent use of informal sources of information, it is all the more important to encourage the acquisition of information from (official) credible sources, to strengthen the ability to recognize incomplete and false information, to encourage critical thinking and to strengthen health, digital, media and information literacy.

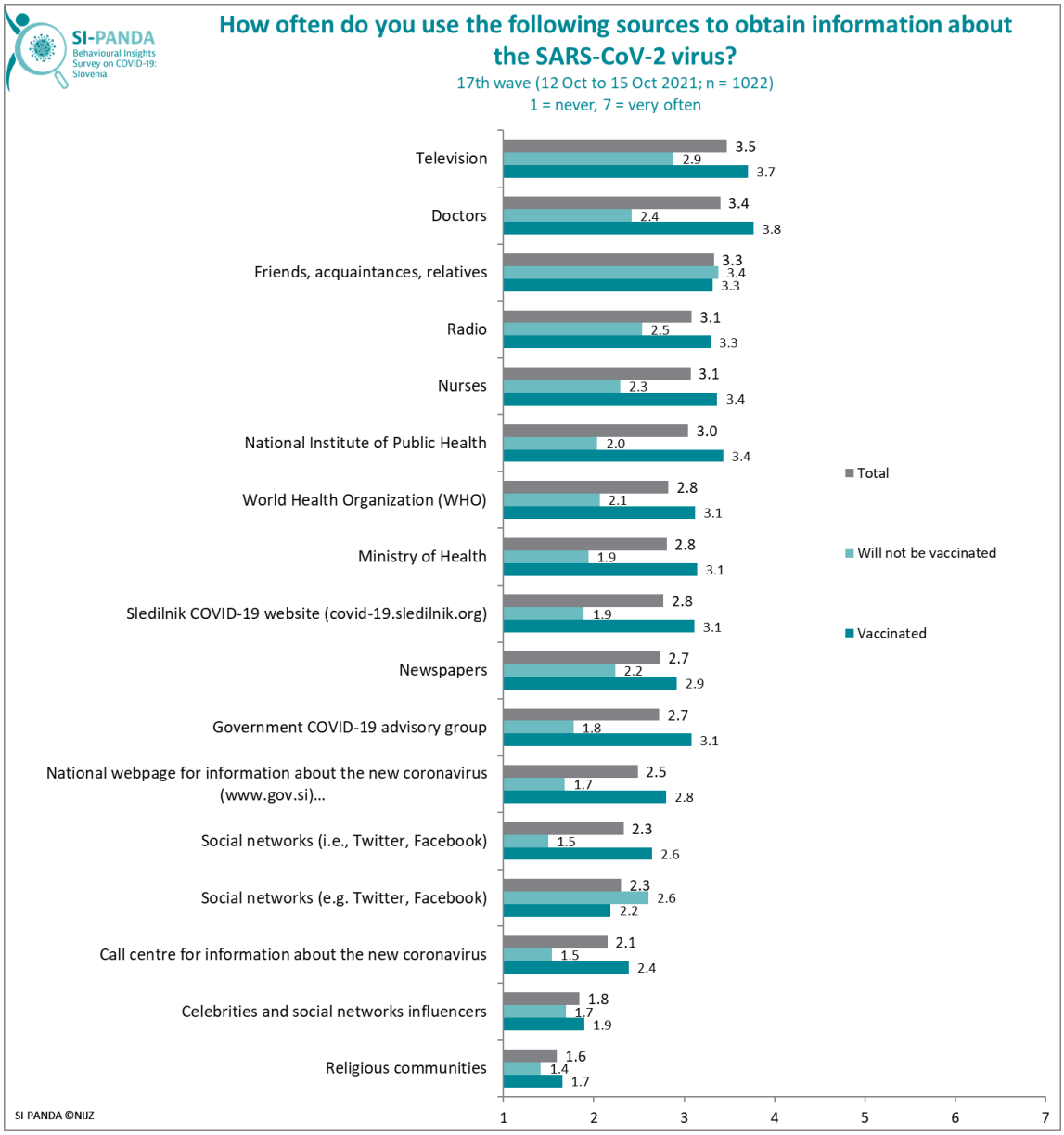


Figure 31: Frequency of use of different sources to obtain information about the SARS-CoV-2 virus, total and by vaccination status.

SARS-CoV-2-related risk perception

Risk perception is an integral part of most health behaviour theories, and, when planning various health interventions, the best possible understanding of its potential impact on health behaviour is imperative. Risk perception is formed by three variables: our perception of the likelihood, susceptibility and severity of the threat; the sum of these three variables, divided into three groups, constitutes an indicator of risk perception.

Slightly more than a third of all respondents (35.6%) think it is likely that they get infected with SARS-CoV-2, 34.9% have a neutral opinion, and just under a third (29.5%) do not think it is likely that they get infected with SARS-CoV-2. A good quarter of respondents (26.1%) believe that they are susceptible to infection with SARS-CoV-2, a good third (34.4%) have a neutral opinion, and

almost 40% of them believe that they are not susceptible to infection. Only 16.3% of respondents believe that the course of SARS-CoV-2 infection would be difficult for them, just under a third (30.6%) have a neutral opinion, and more than half (53.1%) of them believe that the course of their infection would be easy. Overall, the SARS-CoV-2-related risk perception is high only for a good quarter of the respondents (26.5%), while almost 40% assess their SARS-CoV-2-related risk as low (Figure 32).

Interesting differences are shown in the SARS-CoV-2-related risk perception between vaccinated and unvaccinated respondents. More than a third of vaccinated respondents (38.8%) think it is likely that they can get infected with SARS-CoV-2, just under a third of vaccinated respondents (29.6%) think they are susceptible to SARS-CoV-2 infection, almost a fifth (18.6%) of vaccinated respondents believe that the course of their SARS-CoV-2 infection would be difficult.

At the same time, as many as 41.1% of unvaccinated respondents do not think it is likely that they can be infected with SARS-CoV-2, a good half of unvaccinated respondents (50.5%) believe that they are not susceptible to SARS-CoV-2 infection, and almost two thirds of unvaccinated respondents (63.2%) believe that the course of their SARS-CoV-2 infection would be easy.

Taken as whole, the results of the survey therefore show that more than half of the unvaccinated (53.2%) have a very low risk perception regarding SARS-CoV-2 infection, while only a seventh of the unvaccinated (15.6%) expressed a high risk perception of infection. At the same time, almost a third of the vaccinated (30.5%) expressed a high risk perception of infection (Figure 32).

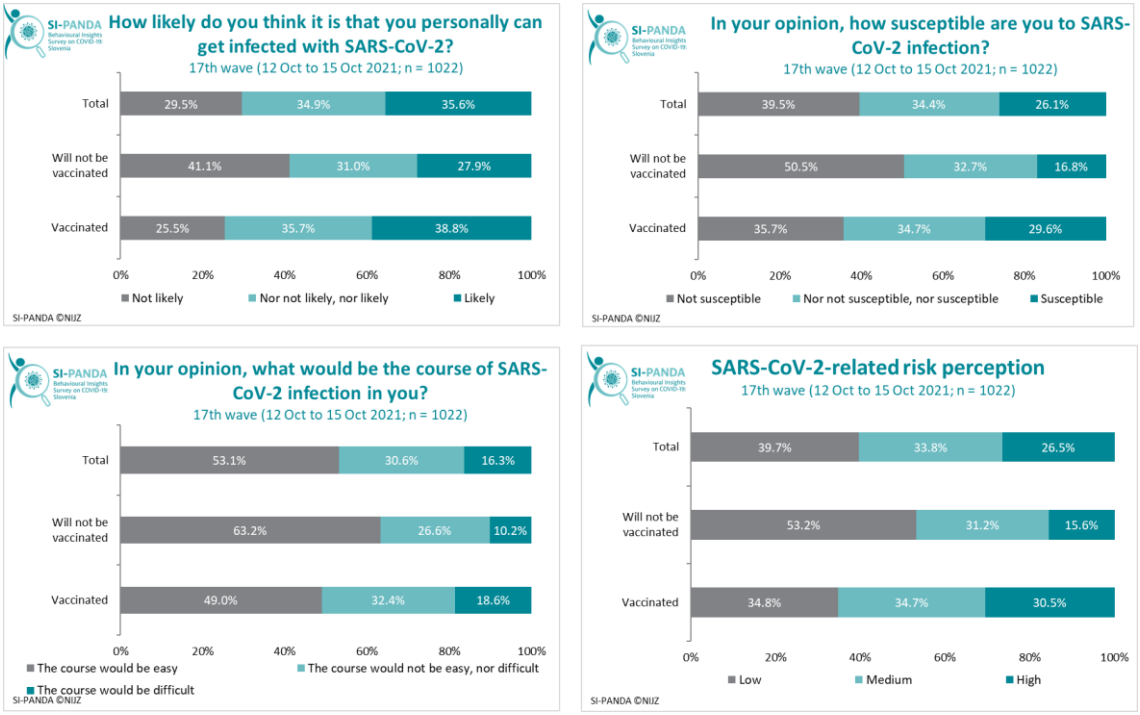


Figure 32: SARS-CoV-2-related risk perception, total and by vaccination status

Risk perception is actually our interpretation of the world, which is influenced by many personal, cultural and social factors that go beyond classic risk factors and are based on experiences, behaviours, opinions, judgements, concepts and emotions. Decisions arising from risk perception are also, or above all, significantly influenced by the cultural context, which is why risk perception can act both as a trigger and as an inhibitor of precautionary or protective actions.

Emotional responses to COVID-19 and COVID-19 vaccination

THE INFLUENCE OF EMOTIONS ON HEALTHCARE DECISIONS AND COMMUNICATION IN HEALTHCARE

Strongly expressed emotions affect motivation and willingness to follow preventive health measures. Emotions also influence susceptibility to disinformation, conspiracy theories, and risk perception. Given that, given all the impacts that the COVID-19 pandemic has on people's lives, it is inevitable that it also triggers strong emotional responses, the impact of emotions must also be taken into account when planning and implementing measures to promote recommended behaviour during the pandemic – from vaccination to appropriate hygiene measures. Even before the outbreak of the COVID-19 pandemic, analyses of social networks showed the anti-vaccination campaigns deliberately used to influence people's emotions (the feeling of being deprived of their civil rights, freedom of decision, fear, anger, etc.). The same applies to various conspiracy theories, which deliberately spread mistrust towards official institutions, healthcare, pharmacists, justice, even the media. Fear of vaccination side effects and mistrust (in science, government, medicine, etc.) are among the main reasons for refusing vaccination. Because the effects of emotions on people's behaviour are very complex and because the cultural, social and political context is of great importance, the emotional component must be taken into account when communicating preventive measures in a very targeted way – the usual public health population approaches, which are the same for everyone, simply do not have appropriate effect. Therefore, it is important to know what emotions prevail in individual segments of the target public at a given moment. If the communication of public health measures is to be successful, it is essential that it goes beyond mere information and that it addresses individual population groups by also taking into account the emotional component and explicitly supporting the feeling of self-efficacy.[10]

The results of the SI-PANDA survey, which identify different gender-specific emotional responses to COVID-19 and COVID-19 vaccination, confirm the findings of foreign research that show that men and women experience the COVID-19 pandemic differently, both from the health consequences' point of view and as a whole.[11] In both the emotional response to COVID-19 and the emotional response to the COVID-19 vaccination, men show a greater tendency towards more positive emotions, while women show a predominant tendency towards more negative emotions. Differences are also seen in emotional responses in different age groups. The findings represent extremely useful information for various professionals, decision-makers and communicators.

[10] Chou WS, Budenz A. Considering Emotion in COVID-19 Vaccine Communication: Addressing Vaccine Hesitancy and Fostering Vaccine Confidence. Health Commun. 2020 Dec; 35(14): 1718–22.

[11] Rodriguez-Besteiro, S., Tornero-Aguilera, J. F., Fernández-Lucas, J., & Clemente-Suárez, V. J. (2021). Gender Differences in the COVID-19 Pandemic Risk Perception, Psychology, and Behaviors of Spanish University Students. International Journal of Environmental Research and Public Health, 18(8), 3908. doi:10.3390/ijerph18083908.

EMOTIONAL RESPONSES TO COVID-19

Among all respondents, the emotional response to COVID-19 is dominated by uncertainty (56.1%) and anger (49.1%), followed by sadness (26.2%), hope (23.1%), fear (21.6%) and distress (19.0%) (Figure 33).

Despite the importance of considering the cultural context, the very strong expression of uncertainty and anger and the very low sense of safety are quite worrying. The latter is also an opportunity to clarify and supplement misunderstandings or lack of knowledge as possible reasons for a feeling of uncertainty.

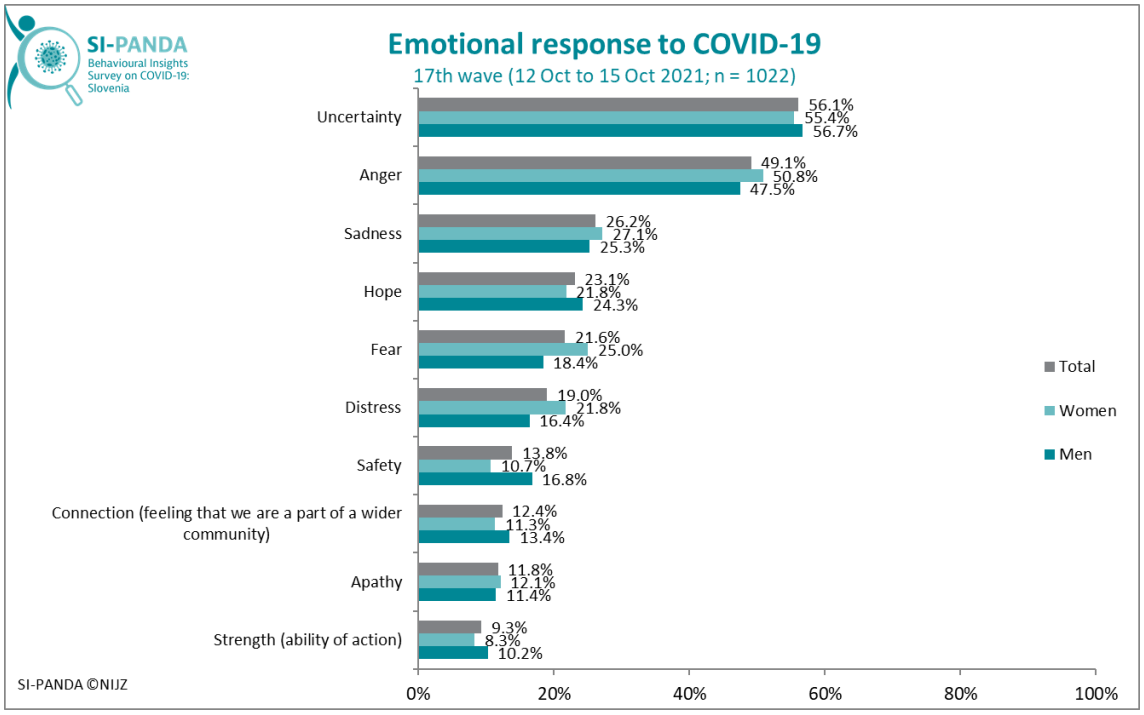


Figure 33: Emotional response to COVID-19, total and by gender.

Note: Several answers were possible.

There is a noticeable difference in the emotional response between the two genders. Expressions of anger, sadness, fear and distress are predominant in women, while expressions of hope safety, connection and strength are predominant in men.

The results of the SI-PANDA survey show a different emotional response to COVID-19 in different age groups. In addition to uncertainty and anger, which are the dominant emotions in relation to covid-19 regardless of age, hope, security and a sense of connectedness are also strongly expressed in those over 65, and sadness, fear and distress in those under 50 (Figure 34).

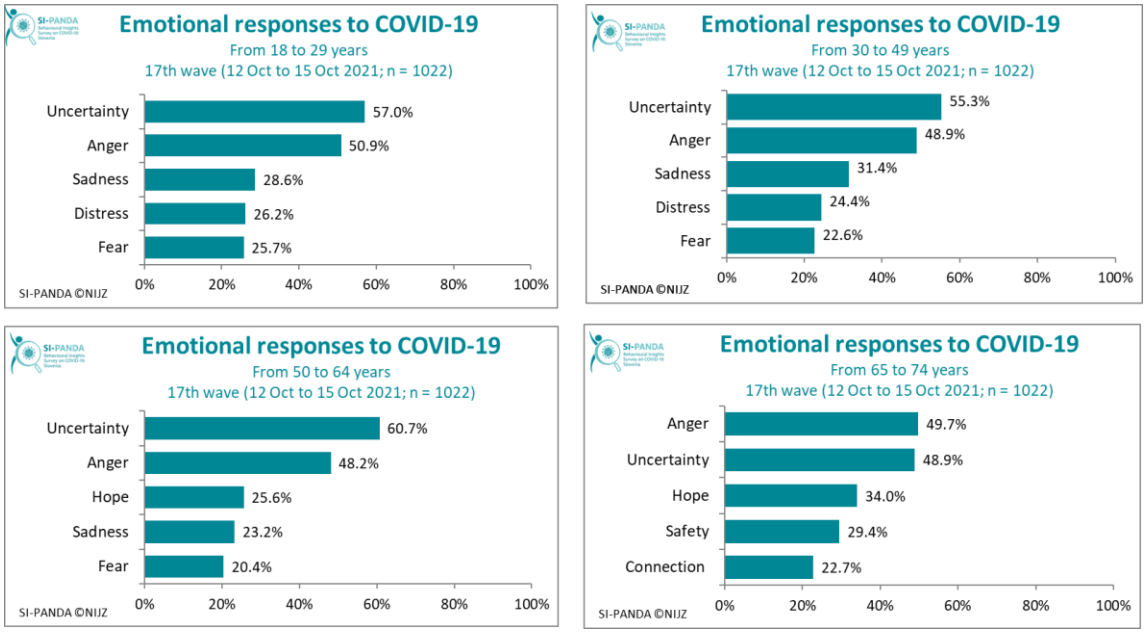


Figure 34: Emotional responses to COVID-19, total and by age groups.

Note: Several answers were possible.

EMOTIONAL RESPONSES TO COVID-19 VACCINATION

Among all respondents, the emotional response to COVID-19 vaccination is dominated by hope (43.8%), followed by relief (35.7%), doubt (34.2%), fear (22.1%), anger (19.0%) and conviction (18.4%) (Figure 35).

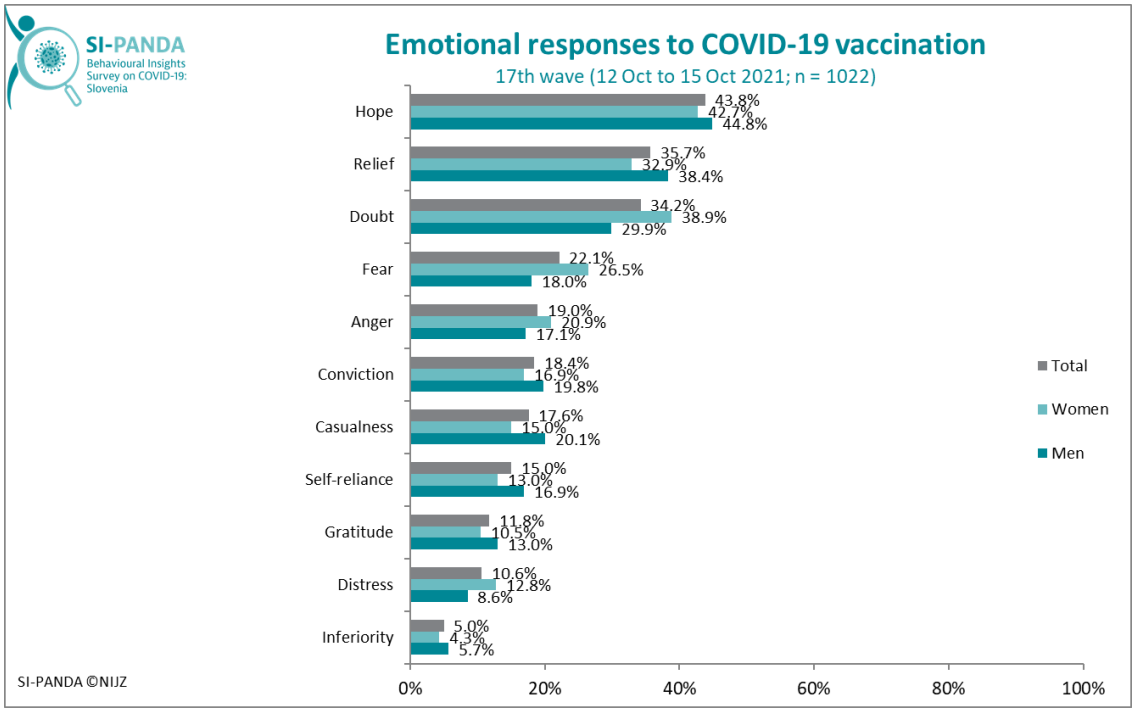


Figure 35: Emotional responses to COVID-19 vaccination, total and by gender.

Note: Several answers were possible.

Also in emotional response to COVID-19 vaccination, difference between genders is shown. The expression of doubt, fear, anger and distress is predominant in women, while the expression of hope, relief, conviction, casualness, self-reliance and gratitude is predominant in men.

Differences in emotional response to COVID-19 vaccination are also evident by age. Among those over the age of fifty, the most expressed emotion in connection to COVID-19 vaccination is hope, while among those under 50 years of age, doubt is the most expressed (Figure 36).

While the emotional responses of those over 65 are dominated by hope, relief and conviction, among those aged 50 to 64, doubt appears among the dominant emotions, which is even the most pronounced emotional response to COVID-19 vaccination among those under 50. People under the age of 65 also express fear as a frequent emotional response, while people under the age of 50 also express anger in addition to fear.

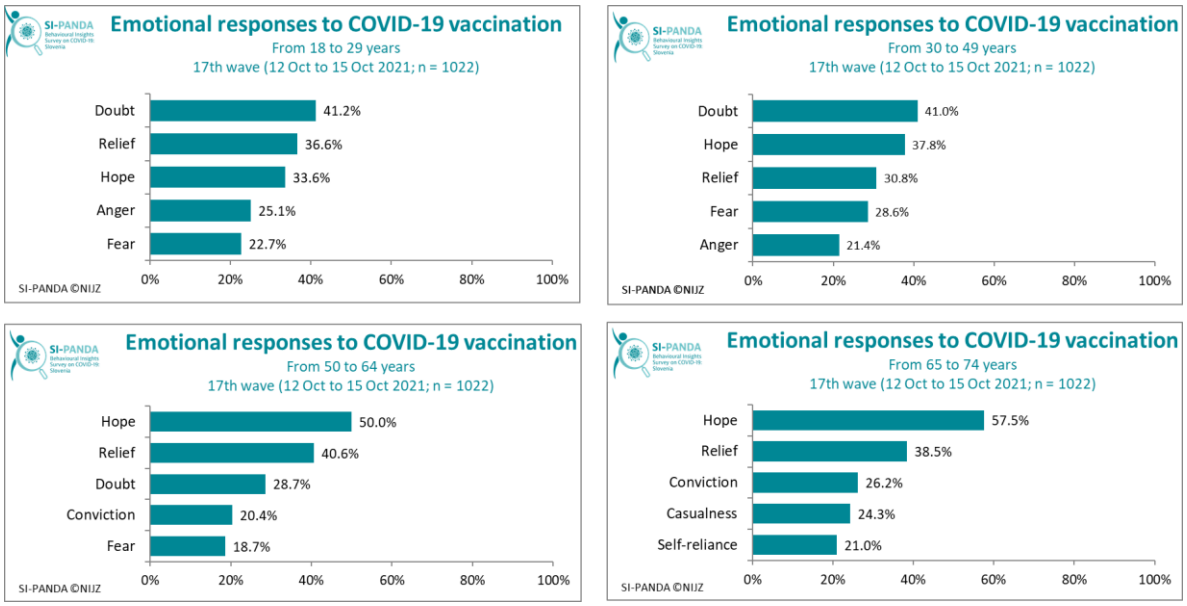


Figure 36: Emotional responses to COVID-19 vaccination, total and by age groups.

Note: Several answers were possible.

Pursuance of a 10-day quarantine in case of high-risk contact

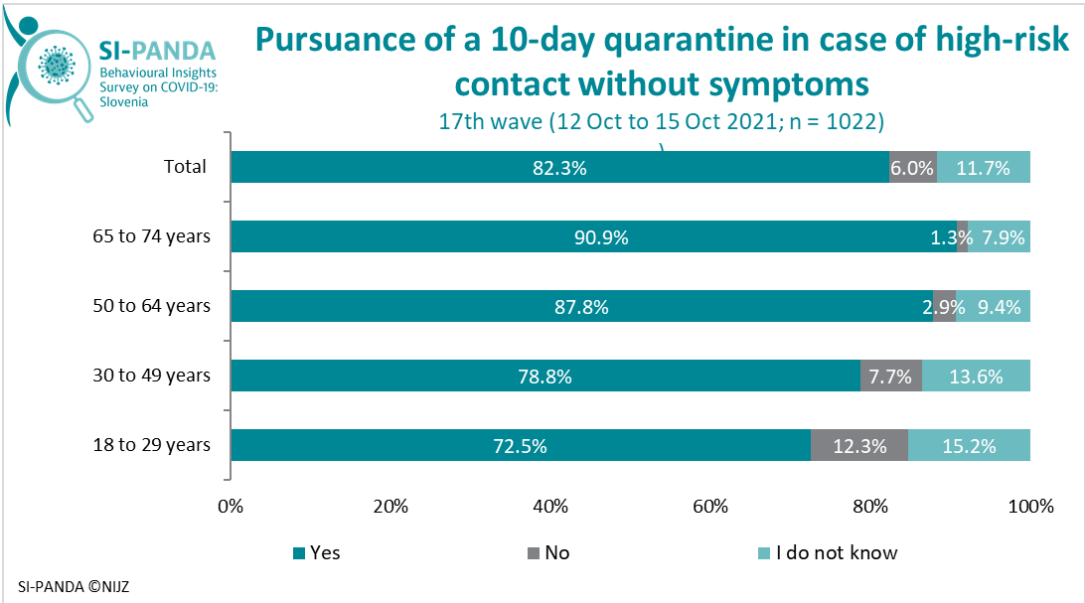


Figure 37: Pursuance of a 10-day quarantine in case of high-risk contact, total and by age groups.

In case of the question “If you were ordered to a 10-day quarantine due to high-risk contact, would you pursue it, even if you did not develop symptoms?”, in addition to the expected greater age-related intention to pursue the quarantine, the data on the proportion of those who would not pursue the quarantine (6% of all respondents) and those who are still undecided about pursuing the quarantine (11.7% of all respondents) is also important; i.e., almost quarter of all respondents (Figure 37). In the age group from 18 to 29 years, one in eight respondents (12.3%) would not pursue the ordered quarantine, and almost one in seven (15.2%) is still undecided about pursuing the possible quarantine, i.e., a good quarter of those aged from 18 to 29 years. In the light of the findings, raising awareness of the importance of pursuing the quarantine and developing a system that supports people in their decision to pursue the mentioned measure is all the more important. The proportion of those who are willing to pursue the quarantine in the event of high-risk contact increases with age.

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