

# COVID-19 pandemics impact on Polish society – preliminary results of a survey

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## Abstract

**Background:** The survey aim was to assess COVID-19 pandemic impact on Polish society.

**Methods:** Data were collected based on a special questionnaire in the period of September - October 2021. The questionnaire focused on societal behaviours and quality of life impact of COVID-19 pandemics in Poland. The assessment was performed both online and using paper version of the questionnaire. Results: A total of 290 respondents answered the survey, mostly female (74,8%) young people, aged 18-25 years (50,3%) and inhabitants of big cities (53,8%). Most of the respondents received the vaccine against COVID (79,7%). Within the youngest group the vaccination was received by 80,8% and by 81% in the eldest group. The highest percentage of vaccinated when analysed by place of residence was in a city of more than 500,000 inhabitants (85,3%). As far as to employment status, the percentage of vaccinated among retired and students was high (92,3% and 81,3% respectively). Good physical health was declared by 46.2% respondents and very good by 21%. Mental health status in 34.8% of respondents was assessed as good and 15.2% as very good. Mental health was assessed the worst by the youngest respondents and by respondents from City of 50,000 -150,000 inhabitants, who described the state of psychological health as bad and very bad. Conclusion: For better understanding of COVID-19 pandemics impact on society further studies on broader population are recommended. There is need to increase awareness of COVID -19 disease, vaccines and their impact on society and on fighting with pandemic.

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## Introduction

During the last two years worldwide, we have faced an incredible challenge and the necessity to change our lives and our habits due to the COVID pandemics. Many people had to adjust to the new standards of living and to the completely new reality. For every individual the outcomes of pandemics were slightly different – some were not affected at all and for some their lives changed indelibly. Probably, this influence of the new unknown disease concerned many areas of our everyday life, each of them a little differently and in a different domain. We are aware that not everyone manages these changes in the same way, that there are different approaches and observing people's behaviours was what finally inspired us to conduct the survey. In our understanding in order to better understand societal behaviours there is a need to interview people of different ages, different places of residence, different working status about how pandemics impacted them and their lives.

The analysis that focused on vaccination approach was of special interest due to the discussions arising about the efficacy and safety of COVID-19 vaccines. According to available literature concerning safety monitoring the reported serious adverse events in relation to COVID-19 vaccination were very rare and the benefits of the vaccination definitely outweighed the potential risks.<sup>[1]</sup>

Taking into account the societal emotions linked to the pandemics our survey aimed at collecting data about the impact of the COVID-19 pandemic on the society in Poland and among others we aimed to analyse the information about vaccination approach in different societal groups.

## Methods

The data were collected based on a self-designed questionnaire. The survey was anonymous and it was conducted over a two-month period, September-October 2021.

The questionnaire targeted adult population and consisted of 22 closed questions with the possibility of one answer to each. It was focused on societal behaviours and quality of life impact of the COVID-19 pandemics in Poland. The questions concerned demographics, vaccination status against COVID-19, COVID-19 sickness status, working status, some respondents' subjective assessment in relation to quality of sleep, physical and mental wellbeing, concentration and quality of life before and during pandemics period, as well as information about respondents seeking professional help in relation to mental health.

The data collection was performed both online with Google Forms and by using a paper version of the questionnaire. All the obtained data were combined in one excel file for further analysis. Information about the survey was shared among different faculties students in Warsaw and Lublin and in two medical care centres in Warsaw, among general practitioners' patients and those of specialists' as well.

The statistical evaluation of the results was performed with the Chi-square test of independence and odds ratio. Statistically significant associations were considered those with  $p$ -value  $< 0.05$ .

The survey was initiated after consultation with the Warsaw Medical Chamber Ethics Committee and obtaining written confirmation that there is no need for the Ethics Committee approval.

## Results

A total of 290 respondents answered the survey, mostly female (74,8%) and young people, aged 18-25 years (50,3%), inhabitants of big cities (53,8%). From the whole respondents group 47,9% were students and 41% people being currently employed. Demographic details and respondents' characteristics are provided in [Table 1](#).

Most of the respondents received the vaccine against COVID (79,7%) and only 20,3% of those who answered the survey experienced COVID disease ([Table 2](#)). Within that group 20,5% of people aged 18-25 years declared COVID sickness in the past, 38,5% of previously sick people were within the age range 26-35 years, 19,4% were at age range 56-65 and 19% older than 65 years. When assessing this question in terms of the place of residence, it should be stated that 33,3% of the 150,000 - 500,000 inhabitants cities' population replied affirmatively, 38,5% answered negatively, and 28,2% do not know whether they suffered from COVID in the past. In terms of employment status, 23% of students do not know whether they experienced the disease, and only 3,8% of retired respondents confirmed the fact of being sick in the past. The distribution of the vaccinated people by age was fairly even, within the 18-25 years group the vaccination was received by 80,8% and 81% in the oldest group. The highest percentage of vaccinated when analysed by place of residence was in a city of more than 500,000 inhabitants (85,3%). In relation to the employment status, the percentage of vaccinated among retired and students was high (92,3% and 81,3% respectively). Within the unemployed 33,3% were not vaccinated. Among those vaccinated, 18,2% confirmed they were sick, and 16% did not know. On the other hand, among unvaccinated people, 28,8% confirmed the fact of falling ill with COVID, 44,1% denied it, and 27,1% do not

know if they were ill. The calculated odds ratio of the incidence of disease within the vaccinated group is 0.4226, meaning that the vaccinated people are less likely to get the disease than those who are not vaccinated.

Another issue addressed by the survey was the self-assessment of the respondents' current physical and mental health. The results are summarized in [Table 3](#). It is positive that the majority of respondents described their physical health as good (46,2%) and very good (21%). The self-assessment of mental health results were slightly worse, namely 34,8% assessed it well and only 15,2% of the respondents very well. Over 70% of women assessed their physical health as good and very good, and in relation to the mental health positive assessment was in case of 48,8% of women respondents. Bad and very bad assessment was respectively, 9,2% and 17,5%. Among men physical health evaluation as poor and very bad constitute 15,2%, the poor and bad mental health condition assessment among men was 19,7%, and the evaluation as well and very well constituted 56,6% and 57,6%, respectively. In the age group of 36-45, 30,6% assessed the current state of physical health poorly and very badly, and 11,8% in relation to the mental health state. Within the group of 46-55 years the percentage was 19,4% and 16,2% respectively. Mental health is assessed worst by the youngest group of respondents, with 23,9% of respondents who assessed it as bad and very bad. Also, 52,9% of the respondents from cities of 50,000 -150,000 inhabitants described the state of psychological health as bad and very bad. Among the people who replied that they had COVID in the past, their physical condition was assessed as good and very good by 66,1%, while 6,8% assessed it as bad or very bad. 68,6% of the people who believe that they did not suffer from COVID assessed their physical health as very good and good, and 54,4% the mental health as good and very good. The answers of bad and very bad accounted for 9,5% and 22,1%, respectively. Among people who do not know whether they were ill 64,2% assessed the state of physical health as good or very good, and 35,9% the state of mental health as good and very good. 18,8% of respondents from that group assessed the state of physical health as bad or very bad, and in relation to the mental health 24,5% considered that it was bad or very bad. Among the vaccinated persons, 66,7% assessed the current state of physical health as good and very good, 47,2%, in relation to the mental health status and respectively 8,2% and 19,5% as bad and very bad. Among those who have not been vaccinated against COVID, 69,5% assessed their physical health and 61% assessed their mental health as good and very good, and 20,4% and 15,3%, respectively as bad and very bad. In terms of the employment status, 24,5% of the unemployed and 22,1% of students assessed their mental health as bad or very bad. The statistical evaluation of the results in [Table 3](#) showed that at the significance level  $\alpha = 0.05$  there is a relationship between the fact of falling

ill with COVID-19 and the subjective perception of one's own mental health ( $p = 0.014$ ) and the lack of this correlation in the case of subjective perception of one's own physical health ( $p = 0.325$ ). There was statistically significant associations between feeling the state of physical health and the fact of being vaccinated ( $p = 0.002$ ) and no correlation in the case of feeling the state of mental health ( $p = 0.221$ ). The assessment of the relationship between the perception of the physical state and the mental state also showed statistically significant associations.

We decided to check the assessment of the state of physical and mental health depending on the history of experiencing the disease or not, and whether or not the vaccine was received. The data are summarized in [Table 4](#). 38.5% of people within the group of 'No infection history, not vaccinated' rated their physical and mental health as good, 41.2% of those within the group 'Infection history, not vaccinated' rated the physical health as very good and the mental health as good. 47.4% of people who declared 'No infection history, vaccinated' had good physical health and 36.2% of them rated their mental health as good. Among respondents who declared 'Infection history, vaccinated' 47.6% had good physical health and 31% good mental health. 43.8% of people with 'Infection history not known, not vaccinated' assessed their physical health as good, while 37.5% assessed their mental health as good. Among those with 'Infection history not known, vaccinated', 51.4% rated their physical health as good and 35.1% as neither good nor bad. Statistical evaluation of the results in [Table 4](#) showed that at the significance level  $\alpha = 0.05$  there is no statistically significant associations between the subjective perception of physical and mental health in the case of people who were in the group of "Infection history not known, not vaccinated" ( $p = 0.916$ ), "Infection history, not vaccinated" ( $p = 0.576$ ) and "No infection history, not vaccinated" ( $p = 0.511$ ). In contrast, there is statistically significant associations in those with "Infection history not known, vaccinated" ( $p = 0.011$ ), "Infection history, vaccinated" ( $p = 0.020$ ) and "No infection history, vaccinated" ( $p = 0.032$ ).

## Discussion

Interesting finding from the survey is that the mental health worst assessment was within the youngest respondents. Similar results were obtained by respondents from cities of 50,000 -150,000 inhabitants, who described the state of psychological health as bad and very bad. The majority of respondents to the survey were women and more than 70% of the respondents were vaccinated against COVID-19.

We searched for studies performed in Poland in relation to COVID-19 vaccination approach and according to a

survey aimed to assess the perception and attitudes towards COVID -19 vaccines in Poland in 2021 an interesting finding was that participants age was the main factor influencing the level of trust in regards to the vaccine type. Authors have also shown that it depends on who is the vaccine producer.<sup>[2]</sup> In our survey the group with highest percentages of being vaccinated were the young (18-25 years) and the eldest, 80,8% and 81% respectively.

In another recent survey in Poland authors assessed the willingness for a booster vaccine and they found that those who were more positive to receive the vaccination were women, individuals  $\geq 50$  years old, people with obesity and chronic diseases, as well as those who suffered from COVID infection before and after vaccination.<sup>[3]</sup> In the survey that we performed there was a significant interest of women in providing their input (74,8% of female respondents).

The authors of a survey performed in UK aimed at gaining insights into COVID-19 vaccination beliefs, attitudes, and behaviours amongst healthcare and social workers. As a result of the survey and interviews one of the findings was that their workplace factors influenced the vaccination uptake and access. Also those interviewees experiencing pressure at their workplace to get vaccinated had more concerns related to vaccines and the level of trust was lower.<sup>[4]</sup>

In Brazil a survey conducted with the objective to determine the acceptance of the COVID-19 vaccine also identified that 81.4% of the respondents declared willingness to receive the vaccine. Less hesitation for being vaccinated among men was within those with an employment and with comorbidities, while among women, the influencing factors were higher educational level and high perception of COVID-19 risk.<sup>[5]</sup>

In relation to the discussions related to vaccination efficacy and safety there is clinical evidence published confirming that severe symptoms of the COVID-19 disease can be reduced or avoided with the vaccinations. They also protect against the disease and are an important tool in the fight to decrease the spread of the virus and the rate of infection.<sup>[6]</sup>

In our opinion and in line with findings from cited authors, there is high need for sharing continuously scientific communication in order to increase the general awareness of the COVID -19 disease, its impact on society and the vaccines impact on fighting the pandemic.

## Conclusions

Further studies on broader population are recommended to provide more insights for better understanding of COVID-19 pandemics impact on society. There is also a need for sharing continuously scientific communication in order to increase the general awareness of the COVID -19 disease, its impact on society and the vaccines impact on fighting against pandemic.

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Table 1. General respondents' characteristics

	Respondents number (N=290)	%
Gender:		
Female	217	74.8
Male	66	22.8
Non-binary person	7	2.4
Age (years):		
18-25	146	50.3
26-35	39	13.4
36-45	34	11.7
46-55	31	10.7
56-65	21	7.2
> 65	18	6.2
No answer	1	0.3
Place of residence:		
Village	49	16.9
City < 50 000 inhabitants	29	10.0
City 50 000 -150 000 inhabitants	17	5.9
City 150 000 -500 000 inhabitants	39	13.4
City > 500 000 inhabitants	156	53.8
Employment status:		
Student	139	47.9
Employed	119	41.0
Retired	26	9.0
Unemployed	6	2.1

Table 2.

	Yes (%)	No (%)	Not known (%)	OR (95% CI)
COVID-19 sickness history	59 (20.3)	178 (61.4)	53 (18.3)	
COVID-19 vaccination status	231 (79.7)	59 (20.3)	-	0.4226

Table 3. Physical and mental health status							
Physical health status	Very good	Good	Neither good nor bad	Bad	Very bad	No answer	p (0.05)
Total	61 (21.0)	134 (46.2)	64 (22.1)	17 (5.9)	14 (4.8)		
COVID-19 infection history							
Yes	13 (22.0)	26 (44.1)	16 (27.1)				
No	40 (22.5)	82 (46.1)	39 (21.9)	1 (1.7)	3 (5.1)		
Not known	8 (15.1)	26 (49.1)	9 (17.0)	10 (5.6)	7 (3.9)		0,421**
COVID-19 vaccination							
Yes	43 (18.6)	111 (48.1)	58 (25.1)				
No	18 (30.5)	23 (39.0)	6 (10.2)	12 (5.2)	7 (3.0)		0,002*
Mental health status							
Very good	24 (54.5)	16 (36.4)	4 (9.1)				
Good	27 (26.7)	54 (53.5)	18 (17.8)	1 (1.0)	1 ((1.0)		
Neither good nor bad	10 (11.9)	48 (57.1)	9 (22.6)	2 (6.0)	2 (2.4)		0,0000*
Bad		10 (27.0)	17 (45.9)	3 (18.9)	3 (8.1)		
Very bad		2 (11.8)	3 (17.6)	8 (23.5)	8 (47.1)		
No answer		4 (57.1)	3 (42.9)				
Mental health status	Very good	Good	Neither good nor bad	Bad	Very bad	No answer	p (0.05)
Total	44 (15.2)	101 (34.8)	84 (29.0)	37 (12.8)	17 (5.9)	7 (2.4)	
COVID-19 infection history							
Yes	12 (20.3)	20 (33.9)	13 (22.0)	9 (15.3)	4 (6.8)		
No	29 (16.3)	65 (36.5)	55 (30.9)	20 (11.2)	8 (4.5)	1 (1.7)	
Not known	3 (5.7)	16 (30.2)	16 (30.2)	8 (15.1)	5 (9.4)	1 (0.6)	0,014*
COVID-19 vaccination							
Yes	31 (13.4)	78 (33.8)	71 (30.7)	33 (14.3)	12 (5.2)		
No	13 (22.0)	23 (39.0)	13 (22.0)	4 (6.8)	5 (8.5)	6 (2.6)	0,221**
Physical health status							
Very good	24 (39.3)	27 (44.3)	10 (16.4)				
Good	16 (11.9)	54 (40.3)	48 (35.8)	10 (7.5)	4 (1.5)		
Neither good nor bad	4 (6.3)	18 (28.1)	19 (29.7)	17 (26.6)	3 (4.7)	4 (3.0)	0,0000*
Bad		1 (5.9)	5 (29.4)	7 (41.2)	4 (23.5)	3 (4.7)	
Very bad		1 (7.1)	2 (14.3)	3 (21.4)	8 (57.1)		

\* At the level of statistical significance equal to 0.05, the hypothesis that the studied variables are independent cannot be rejected

\*\* At the statistical significance level equal to 0.05, the hypothesis that the studied variables are independent should be rejected

Table 4 COVID-19 infection history, vaccination and health assessment

	Physical health status					Mental health status					p (0,05)		
	Total	Very good	Good	Neither good nor bad	Bad	Very bad	Very good	Good	Neither good nor bad	Bad		Very bad	No answer
No infection history, not vaccinated	26 (9.0)	8 (30.8)	10 (38.5)	2 (7.7)	3 (11.5)	3 (11.5)	6 (23.1)	10 (38.5)	6 (23.1)	3 (11.5)	1 (3.8)	-	0.511**
Infection history, not vaccinated	17 (5.9)	7 (41.2)	6 (35.3)	2 (11.8)	1 (5.9)	1 (5.9)	4 (23.5)	7 (41.2)	4 (23.5)	-	2 (11.8)	-	0.576**
No infection history, vaccinated	152 (52.4)	32 (21.1)	72 (47.4)	37 (24.3)	7 (4.6)	4 (2.6)	23 (15.1)	55 (36.2)	49 (32.2)	17 (11.2)	7 (4.6)	1 (0.7)	0.032*
Infection history, vaccinated	42 (14.5)	6 (14.3)	20 (47.6)	14 (33.3)	-	2 (4.8)	8 (19.0)	13 (31.0)	9 (21.4)	9 (21.4)	2 (4.8)	1 (2.4)	0.020*
Infection history not known, not vaccinated	16 (5.5)	3 (18.8)	7 (43.8)	2 (12.5)	1 (6.3)	3 (18.8)	3 (18.8)	6 (37.5)	3 (18.8)	1 (6.3)	2 (12.5)	1 (6.3)	0.916**
Infection history not known, vaccinated	37 (12.8)	5 (13.5)	19 (51.4)	7 (18.9)	5 (13.5)	1 (2.7)	-	10 (27.0)	13 (35.1)	7 (18.9)	3 (8.1)	4 (10.8)	0.011*

\* At the level of statistical significance equal to 0.05, the hypothesis that the studied variables are independent cannot be rejected

\*\* At the statistical significance level equal to 0.05, the hypothesis that the studied variables are independent should be rejected