Situation report

dieKontrollgruppe

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1 Introduction

dieKontrollgruppe is an anonymous and independent scientific monitoring of Corona-vaccinated and Corona-unvaccinated people. Our aim is to use the information obtained in the coming months and years to obtain early indications of both the positive effects and any undesirable side effects of the vaccinations against the SARS-CoV-2 virus.

To ensure high data quality and serious cooperation, registration for monitoring is only possible via multipliers. Multipliers have been personally verified by the core team of **dieKontrollgruppe**. Registration includes access to the control group web interface, where the intake questionnaire and the individual fortnightly surveys can be completed.

dieKontrollgruppe was launched on 10.8.2021. Preliminary results are shown here.

2

2 PARTICIPANTS IN MONITORING

2 Participants in monitoring



The total number of participants in a given calendar week is shown. Participants who have completed the intake form are counted. So far, the proportion of unvaccinated participants exceeds that of vaccinated participants.

PARTICIPANTS IN MONITORING 2



Cumulative number of vaccinated in monitoring who completed surveys, divided into participants vaccinated at intake and originally unvaccinated.



Age distribution

2 PARTICIPANTS IN MONITORING

Most participants are between 50 and 60 years old. In comparison the age pyramid in Germany, younger people are underrepresented. The average age of the vaccinated is slightly above that of the control group.



The body mass index (BMI) is typical for a cohort in Germany (average BMI 25.7). The BMI of the vaccinated is slightly higher than that of the control group.



The majority of participants are female. The proportion in the control group is even slightly higher.



How do you treat yourself in the event of an illness?

The high number of participants who rely on their own expertise is not surprising, as people who are willing to participate in a health willingness to participate in a health monitoring programme attach a high attach a high value to the topic of health.

The high number of those who rely on homeopathy is certainly due to the the fact that the control group was presented for the first time at a homeopathy conference.

Also not surprising is the higher rate of vaccinated patients among those who primarily treated with conventional medicine.



Most of the participants come from Germany, but increasingly also from Austria and Switzerland.



Shown here is the total number of completed fortnightly surveys.

3 Occurrence of symptoms and diagnosed diseases

3.1 Occurrence of symptoms

The occurrence of a new symptom, i.e. when the question "Have you had a NEW complaint in the last 14 days?" was answered with "Yes", is shown by vaccination status. The percentage indicates how many of the respondents in the respective cohort indicated a new symptom.



14.3% (n = 21919) of the non-vaccinated reported a new complaint in the last 14 days, among the vaccinated this was in 19.6% (n = 1621) the case. The vaccinated people thus suffered 1.37 times more often from symptoms than the control group. The difference in proportions has significance $p = 4.66 \cdot 10^{-38}$ (Fisher exact test) and an odds ratio of 0.682 (95% confidence interval 0.645 to 0.722). The confidence interval does not contain one and supports the significance statement.



The occurrence of a new medical diagnosis is shown according to calendar week and vaccination status, i.e. if the question "Have you had a NEW diagnosis or disease in the last 14 days?" was answered with "Yes".



New symptoms

The occurrence of a new symptom is shown according to calendar week and vaccination status, i.e. if the question "Have you had a NEW symptom in the last 14 days?" was answered with "Yes". In the error bar in this diagram—as well as in the following ones—the 95% confidence interval is shown according to the exact Clopper-Pearson method.



3.2 Diagnosed diseases

The occurrence of a new medical diagnosis is shown by calendar week and vaccination status, i.e. if the question "Have you been diagnosed with a NEW diagnosis or disease in the last 14 days?" was answered with "Yes".



New diagnoses

The same data including 95% confidence interval according to the exact Clopper-Pearson method.

3.3 Respiratory diseases

Respiratory diseases



The occurrence of respiratory diseases is shown according to calendar week and vaccination status. Respiratory diseases are characterised by rhinitis, cough or sore throat. In people, people who entered the survey unvaccinated and were later vaccinated vaccinated, the interviews before vaccination are assigned to the unvaccinated status. unvaccinated status, and the interviews afterwards are assigned to the vaccinated status. In the error bar in this diagram as well as in the following ones, the 95% confidence interval according to the exact Clopper-Pearson Clopper-Pearson method.

Among the unvaccinated, there is an even seasonal development that peaked at the end of October and has been falling again since then. falling since then. This trend is earlier than the typical seasonal trend. earlier.

Among the vaccinated, the course is characterised by strong fluctuations (which are also partly due to the small number of cases, represented by the confidence interval). The general frequency of respiratory diseases differs little from the control group to the vaccinated, however, among the vaccinated there are maxima in October and January.



Severity-weighted frequency of respiratory diseases

Shown is a representation of the occurrence of respiratory diseases weighted by severity. occurrence of respiratory diseases. The monitoring records symptoms in 5 severity levels from very mild to very severe, which are assigned numerical values from 1 to 5. For the severity of a respiratory the severity of a respiratory illness, the severity of the cold, cough and sore cough and sore throat are added together to give an overall score of 1 to 15. 15, whereby the percentage of the maximum possible 15 is shown here.



Influenza-like illnesses

The occurrence of influenza infections is shown according to calendar week and vaccination status. Influenza infections are counted if one of the symptoms fever, chills or aching limbs has occurred in addition to a respiratory illness, chills or aching limbs.

Among the unvaccinated, there is an increase up to the 42nd calendar week and then a slow decline. Among the vaccinated, on the other hand vaccinated, there is a marked increase in frequency in the 40th calendar week and in January. In the 3rd calendar week, the frequency is 3 times higher in the vaccinated than in the unvaccinated.



Severity-weighted frequency of influenza-like illnesses

A representation of the occurrence of influenza infections weighted according to severity is shown. occurrence of influenza infections. For the severity of an influenza the severity of a cold, cough, sore throat, fever, chills and aching limbs, fever, chills and aching limbs are added together to give an overall score of 1 to from 1 to 30, where again the percentage of the maximum possible possible 30 is shown.

3.4 Time courses of the summarised complaints

In this section, the individual symptoms are combined into an overall severity, which is also severityweighted. For details, see Appendix A.



Here, the average overall severity of the symptoms, i.e. the symptoms assessed under the question "Please differentiate the symptoms in the following", is presented depending on the cohort (control group or vaccinated).



Here, the average total severity of the diagnoses, i.e. the under the question "Have you had a NEW diagnosis or illness in the last 14 days? diagnosis or illness in the last 14 days? diagnoses, depending on the cohort (control group or vaccinated).



This graph shows the average overall severity of the symptoms assessed in the question "What symptoms did you experience during COVID-19? cohort (control group or vaccinated).



This graph shows the average overall severity of symptoms assessed after the question "Do you still have persistent symptoms?" in "Please differentiate symptoms below", depending on the cohort (control group or vaccinated).



In this graph, the summed total severity of new complaints, diagnoses, covid complaints and persistent complaints, depending on the cohort depending on the cohort (control group or vaccinated), is shown.



In this graph, the averages of the total severities of the different types of complaints are shown as stacked bars, and in this graph only the unvaccinated. The similar representation of the vaccinated follows. The total height of the bars is the same as shown in the previous graph.

It can be seen that the largest contribution to the overall severity comes from the "new complaints", which follows a seasonal pattern. From late autumn 2021 to spring 2022, a large contribution from Covid diseases can be seen, but this has been decreasing since then.



The difference to the last graph are the more fluctuating figures (due to the lower number of participants). the lower number of vaccinated persons) and the significantly higher overall significantly higher overall severity.

3.5 Occurence of specific symptoms

In the following, the individual complaints are differentiated, especially in the comparison of the cohorts (control group and vaccinated).



3 OCCURRENCE OF SYMPTOMS AND DIAGNOSED DISEASES

	Factor vaccinated vs. non-vaccinated		Cases	
Symptom	Frequency	Severity	Non-vaccinated	Vaccinated
Rhinitis	1.19***	1.08***	10311	661
Sore throat	1.26^{***}	1.12^{***}	8378	570
Cough	1.28^{***}	1.06^{**}	8295	569
Limb pain	1.46^{***}	1.05^{*}	4061	320
Chills	1.37^{***}	0.98	2099	155
Fever	1.27^{***}	0.98	3133	214
Cardiovascular problems	2.35^{***}	1.09^{**}	1454	184
Bruises	3.74^{***}	1.19^{*}	293	59
Disorder of the lymph systems	1.98^{**}	1.23^{*}	235	25
Dyspnea	2.09^{***}	1.11^{**}	1486	167
Gastrointestinal problems	1.50^{***}	1.03	3126	252
Food intolerance	1.66^{*}	1.10	313	28
Loss of smell	0.95	0.84^{*}	1000	51
Chest pains	2.98^{***}	1.10^{*}	698	112
Headache	1.43^{***}	1.03	6045	465
Fatigue	1.44^{***}	1.04^{*}	6889	534
Lack of motivation	1.57^{***}	1.00	4666	394
Insomnia	1.94^{***}	1.00	2532	264
Restlessness	1.82^{***}	0.99	1397	137
Tenseness	1.88^{***}	0.97	1638	166
Anxiety states	1.60^{***}	1.03	1067	92
Double vision (diplopia)	2.66^{***}	0.95	189	27
Concentration difficulties	2.18^{***}	1.04	1588	186
Word finding disorders	2.74^{***}	1.03	781	115
Coordination difficulties	3.40^{***}	1.11	312	57
Neurological disorders	2.45^{***}	0.96	266	35
Paresthesia on the skin	1.99^{***}	1.12^{*}	617	66
Ekzema, Dermatitis	2.41^{***}	1.02	657	85
Allergies	2.12^{***}	1.14^{*}	473	54
Herpes zoster	1.56^{*}	1.10	441	37
Joint inflammation	3.03^{***}	1.06	608	99
Overdue menses	5.23^{***}	0.95	128	36
Increased menstrual problems	1.88**	0.88	286	29
Increased general overall symptoms	2.11^{***}	1.04	511	58
Remarkable weight loss	1.44	1.16	285	22
Remarkable weight gain	2.62***	1.18*	213	30

This table contains a brief summary of the individual symptoms described below. described below. The factor is shown with which the frequency or severity of symptoms is more frequent or more severe in the vaccinated than in the unvaccinated. The significance is marked with *** if p < 0.001, with ** if p < 0.01 and with *, if p < 0.05.

3.6 New symptom: Rhinitis

The occurrence of the symptom "Rhinitis" to the question "Have you exerienced a NEW symptom in the last 14 days?".



6.7% (n = 10311) of the non-vaccinated reported that the new symptom Rhinitis had occurred in the last 14 days, compared to 7.99% (n = 661) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.19 times more often than the control group. The difference in proportions has the significance $p = 9.52 \cdot 10^{-6}$ (Fisher exact test) and an odds ratio of 0.828 (95% confidence interval of 0.762 to 0.9). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.37 in the control group and 2.56 in the vaccinated. Thus, the average severity was 1.08 times greater in the vaccinated than in the control group. The difference in the averages has the significance $p = 4.34 \cdot 10^{-5}$ (Wilcoxon-Mann-Whitney test) and an effect size of 0.0375.

The average severity of the symptom across all interviews is 1.29 times higher in vaccinated than in the non-vaccinated.

New symptom: Rhinitis



3.7 New symptom: Sore throat

The occurrence of the symptom "Sore throat" to the question "Have you exerienced a NEW symptom in the last 14 days?".



5.45% (n = 8378) of the non-vaccinated reported that the new symptom Sore throat had occurred in the last 14 days, compared to 6.89% (n = 570) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.26 times more often than the control group. The difference in proportions has the significance $p = 6.05 \cdot 10^{-8}$ (Fisher exact test) and an odds ratio of 0.779 (95% confidence interval of 0.713 to 0.852). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.29 in the control group and 2.56 in the vaccinated. Thus, the average severity was 1.12 times greater in the vaccinated than in the control group. The difference in the averages has the significance $p = 4.26 \cdot 10^{-9}$ (Wilcoxon-Mann-Whitney test) and an effect size of 0.0609.

The average severity of the symptom across all interviews is 1.41 times higher in vaccinated than in the non-vaccinated.



New symptom: Sore throat

3.8 New symptom: Cough

The occurrence of the symptom "Cough" to the question "Have you exerienced a NEW symptom in the last 14 days?".



5.39% (n = 8295) of the non-vaccinated reported that the new symptom Cough had occurred in the last 14 days, compared to 6.88% (n = 569) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.28 times more often than the control group. The difference in proportions has the significance $p = 2.26 \cdot 10^{-8}$ (Fisher exact test) and an odds ratio of 0.772 (95% confidence interval of 0.707 to 0.844). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.52 in the control group and 2.68 in the vaccinated. Thus, the average severity was 1.06 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.00124 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0321.

The average severity of the symptom across all interviews is 1.36 times higher in vaccinated than in the non-vaccinated.



New symptom: Cough

3.9 New symptom: Limb pain

The occurrence of the symptom "Limb pain" to the question "Have you exerienced a NEW symptom in the last 14 days?".



2.64% (n = 4061) of the non-vaccinated reported that the new symptom Limb pain had occurred in the last 14 days, compared to 3.87% (n = 320) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.46 times more often than the control group. The difference in proportions has the significance $p = 2.14 \cdot 10^{-10}$ (Fisher exact test) and an odds ratio of 0.674 (95% confidence interval of 0.6 to 0.759). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.74 in the control group and 2.87 in the vaccinated. Thus, the average severity was 1.05 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.0479 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0252.

The average severity of the symptom across all interviews is 1.54 times higher in vaccinated than in the non-vaccinated.

New symptom: Limb pain



3.10 New symptom: Chills

The occurrence of the symptom "Chills" to the question "Have you exerienced a NEW symptom in the last 14 days?".

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1.36% (n = 2099) of the non-vaccinated reported that the new symptom Chills had occurred in the last 14 days, compared to 1.87% (n = 155) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.37 times more often than the control group. The difference in proportions has the significance p = 0.000241 (Fisher exact test) and an odds ratio of 0.725 (95% confidence interval of 0.614 to 0.86). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.56 in the control group and 2.52 in the vaccinated. Thus, the average severity was 1.02 times greater in the non-vaccinated than in the vaccinated. The difference in the averages has the significance p = 0.488 (Wilcoxon-Mann-Whitney test) and an effect size of 0.000644.

The average severity of the symptom across all interviews is 1.35 times higher in vaccinated than in the non-vaccinated.



3.11 New symptom: Fever

The occurrence of the symptom "Fever" to the question "Have you exerienced a NEW symptom in the last 14 days?".



2.04% (n = 3133) of the non-vaccinated reported that the new symptom Fever had occurred in the last 14 days, compared to 2.59% (n = 214) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.27 times more often than the control group. The difference in proportions has the significance p = 0.000973 (Fisher exact test) and an odds ratio of 0.783 (95% confidence interval of 0.68 to 0.905). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.46 in the control group and 2.41 in the vaccinated. Thus, the average severity was 1.02 times greater in the non-vaccinated than in the vaccinated. The difference in the averages has the significance p = 0.371 (Wilcoxon-Mann-Whitney test) and an effect size of 0.00567.

The average severity of the symptom across all interviews is 1.24 times higher in vaccinated than in the non-vaccinated.



New symptom: Fever

3.12 New symptom: Cardiovascular problems

The occurrence of the symptom "Cardiovascular problems" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.945% (n = 1454) of the non-vaccinated reported that the new symptom Cardiovascular problems had occurred in the last 14 days, compared to 2.22% (n = 184) of the vaccinated. Thus, the vaccinated suffered from this complaint 2.35 times more often than the control group. The difference in proportions has the significance $p = 5.76 \cdot 10^{-23}$ (Fisher exact test) and an odds ratio of 0.42 (95% confidence interval of 0.359 to 0.493). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.42 in the control group and 2.64 in the vaccinated. Thus, the average severity was 1.09 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.00892 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0585.

The average severity of the symptom across all interviews is 2.56 times higher in vaccinated than in the non-vaccinated.



New symptom: Cardiovascular problems

3.13 New symptom: Bruises

The occurrence of the symptom "Bruises" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.191% (n = 293) of the non-vaccinated reported that the new symptom Bruises had occurred in the last 14 days, compared to 0.713% (n = 59) of the vaccinated. Thus, the vaccinated suffered from this complaint 3.74 times more often than the control group. The difference in proportions has the significance $p = 1.13 \cdot 10^{-15}$ (Fisher exact test) and an odds ratio of 0.266 (95% confidence interval of 0.2 to 0.358). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.11 in the control group and 2.51 in the vaccinated. Thus, the average severity was 1.19 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.0189 (Wilcoxon-Mann-Whitney test) and an effect size of 0.111.

The average severity of the symptom across all interviews is 4.44 times higher in vaccinated than in the non-vaccinated.



New symptom: Bruises

3.14 New symptom: Disorder of the lymph systems

The occurrence of the symptom "Disorder of the lymph systems" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.153% (n = 235) of the non-vaccinated reported that the new symptom Disorder of the lymph systems had occurred in the last 14 days, compared to 0.302% (n = 25) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.98 times more often than the control group. The difference in proportions has the significance p = 0.00263 (Fisher exact test) and an odds ratio of 0.505 (95% confidence interval of 0.333 to 0.797). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.3 in the control group and 2.84 in the vaccinated. Thus, the average severity was 1.23 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.025 (Wilcoxon-Mann-Whitney test) and an effect size of 0.122.

The average severity of the symptom across all interviews is 2.44 times higher in vaccinated than in the non-vaccinated.



New symptom: Disorder of the lymph systems

3.15 New symptom: Dyspnea

The occurrence of the symptom "Dyspnea" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.966% (n = 1486) of the non-vaccinated reported that the new symptom Dyspnea had occurred in the last 14 days, compared to 2.02% (n = 167) of the vaccinated. Thus, the vaccinated suffered from this complaint 2.09 times more often than the control group. The difference in proportions has the significance $p = 1.38 \cdot 10^{-16}$ (Fisher exact test) and an odds ratio of 0.474 (95% confidence interval of 0.403 to 0.56). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.26 in the control group and 2.51 in the vaccinated. Thus, the average severity was 1.11 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.00134 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0738.

The average severity of the symptom across all interviews is 2.32 times higher in vaccinated than in the non-vaccinated.



New symptom: Dyspnea

3.16 New symptom: Gastrointestinal problems

The occurrence of the symptom "Gastrointestinal problems" to the question "Have you exerienced a NEW symptom in the last 14 days?".



2.03% (n = 3126) of the non-vaccinated reported that the new symptom Gastrointestinal problems had occurred in the last 14 days, compared to 3.05% (n = 252) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.5 times more often than the control group. The difference in proportions has the significance $p = 3.46 \cdot 10^{-9}$ (Fisher exact test) and an odds ratio of 0.66 (95% confidence interval of 0.579 to 0.755). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.66 in the control group and 2.74 in the vaccinated. Thus, the average severity was 1.03 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.247 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0118.

The average severity of the symptom across all interviews is 1.55 times higher in vaccinated than in the non-vaccinated.



New symptom: Gastrointestinal problems

3.17 New symptom: Food intolerance

The occurrence of the symptom "Food intolerance" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.204% (n = 313) of the non-vaccinated reported that the new symptom Food intolerance had occurred in the last 14 days, compared to 0.338% (n = 28) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.66 times more often than the control group. The difference in proportions has the significance p = 0.0133 (Fisher exact test) and an odds ratio of 0.601 (95% confidence interval of 0.407to 0.919). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.73 in the control group and 3 in the vaccinated. Thus, the average severity was 1.1 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.252 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0361.

The average severity of the symptom across all interviews is 1.83 times higher in vaccinated than in the non-vaccinated.




3.18 New symptom: Loss of smell

The occurrence of the symptom "Loss of smell" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.65% (n = 1000) of the non-vaccinated reported that the new symptom Loss of smell had occurred in the last 14 days, compared to 0.616% (n = 51) of the vaccinated. Thus, the non-vaccinated suffered from this complaint 1.05 times more often than the control group. The difference in proportions has the significance p = 0.778 (Fisher exact test) and an odds ratio of 1.06 (95% confidence interval of 0.795 to 1.43).

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.8 in the control group and 2.35 in the vaccinated. Thus, the average severity was 1.19 times greater in the non-vaccinated than in the vaccinated. The difference in the averages has the significance p = 0.0132 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0685.

The average severity of the symptom across all interviews is 1.25 times higher in non-vaccinated than in the vaccinated.



New symptom: Loss of smell

3.19 New symptom: Chest pains

The occurrence of the symptom "Chest pains" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.454% (n = 698) of the non-vaccinated reported that the new symptom Chest pains had occurred in the last 14 days, compared to 1.35% (n = 112) of the vaccinated. Thus, the vaccinated suffered from this complaint 2.98 times more often than the control group. The difference in proportions has the significance $p = 2.53 \cdot 10^{-21}$ (Fisher exact test) and an odds ratio of 0.332 (95% confidence interval of 0.271 to 0.41). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.3 in the control group and 2.52 in the vaccinated. Thus, the average severity was 1.1 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.0293 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0665.

The average severity of the symptom across all interviews is 3.27 times higher in vaccinated than in the non-vaccinated.



New symptom: Chest pains

3.20 New symptom: Headache

The occurrence of the symptom "Headache" to the question "Have you exerienced a NEW symptom in the last 14 days?".



3.93% (n = 6045) of the non-vaccinated reported that the new symptom Headache had occurred in the last 14 days, compared to 5.62% (n = 465) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.43 times more often than the control group. The difference in proportions has the significance $p = 4.68 \cdot 10^{-13}$ (Fisher exact test) and an odds ratio of 0.687 (95% confidence interval of 0.623 to 0.759). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.77 in the control group and 2.86 in the vaccinated. Thus, the average severity was 1.03 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.0658 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0187.

The average severity of the symptom across all interviews is 1.48 times higher in vaccinated than in the non-vaccinated.



New symptom: Headache

3.21 New symptom: Fatigue

The occurrence of the symptom "Fatigue" to the question "Have you exerienced a NEW symptom in the last 14 days?".



4.48% (n = 6889) of the non-vaccinated reported that the new symptom Fatigue had occurred in the last 14 days, compared to 6.45% (n = 534) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.44 times more often than the control group. The difference in proportions has the significance $p = 2.14 \cdot 10^{-15}$ (Fisher exact test) and an odds ratio of 0.68 (95% confidence interval of 0.62 to 0.746). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.93 in the control group and 3.03 in the vaccinated. Thus, the average severity was 1.04 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.0344 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0211.

The average severity of the symptom across all interviews is 1.49 times higher in vaccinated than in the non-vaccinated.



New symptom: Fatigue

3.22 New symptom: Lack of motivation

The occurrence of the symptom "Lack of motivation" to the question "Have you exerienced a NEW symptom in the last 14 days?".



3.03% (n = 4666) of the non-vaccinated reported that the new symptom Lack of motivation had occurred in the last 14 days, compared to 4.76% (n = 394) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.57 times more often than the control group. The difference in proportions has the significance $p = 1.66 \cdot 10^{-16}$ (Fisher exact test) and an odds ratio of 0.626 (95% confidence interval of 0.563 to 0.697). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.99 in the control group and 3 in the vaccinated. Thus, the average severity was 1 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.749 (Wilcoxon-Mann-Whitney test) and an effect size of 0.00945.

The average severity of the symptom across all interviews is 1.58 times higher in vaccinated than in the non-vaccinated.



New symptom: Lack of motivation

3.23 New symptom: Insomnia

The occurrence of the symptom "Insomnia" to the question "Have you exerienced a NEW symptom in the last 14 days?".



1.65% (n = 2532) of the non-vaccinated reported that the new symptom Insomnia had occurred in the last 14 days, compared to 3.19% (n = 264) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.94 times more often than the control group. The difference in proportions has the significance $p = 2.81 \cdot 10^{-21}$ (Fisher exact test) and an odds ratio of 0.508 (95% confidence interval of 0.446 to 0.58). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.73 in the control group and 2.73 in the vaccinated. Thus, the average severity was 1 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.863 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0207.

The average severity of the symptom across all interviews is 1.94 times higher in vaccinated than in the non-vaccinated.

New symptom: Insomnia



3.24 New symptom: Restlessness

The occurrence of the symptom "Restlessness" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.908% (n = 1397) of the non-vaccinated reported that the new symptom Restlessness had occurred in the last 14 days, compared to 1.66% (n = 137) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.82 times more often than the control group. The difference in proportions has the significance $p = 4.52 \cdot 10^{-10}$ (Fisher exact test) and an odds ratio of 0.544 (95% confidence interval of 0.456 to 0.655). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.81 in the control group and 2.77 in the vaccinated. Thus, the average severity was 1.01 times greater in the non-vaccinated than in the vaccinated. The difference in the averages has the significance p = 0.657 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0103.

The average severity of the symptom across all interviews is 1.80 times higher in vaccinated than in the non-vaccinated.



New symptom: Restlessness

3.25 New symptom: Tenseness

The occurrence of the symptom "Tenseness" to the question "Have you exerienced a NEW symptom in the last 14 days?".



1.07% (n = 1638) of the non-vaccinated reported that the new symptom Tenseness had occurred in the last 14 days, compared to 2.01% (n = 166) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.88 times more often than the control group. The difference in proportions has the significance $p = 5.11 \cdot 10^{-13}$ (Fisher exact test) and an odds ratio of 0.526 (95% confidence interval of 0.447 to 0.622). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.74 in the control group and 2.66 in the vaccinated. Thus, the average severity was 1.03 times greater in the non-vaccinated than in the vaccinated. The difference in the averages has the significance p = 0.492 (Wilcoxon-Mann-Whitney test) and an effect size of 0.000469.

The average severity of the symptom across all interviews is 1.83 times higher in vaccinated than in the non-vaccinated.



New symptom: Tenseness

3.26 New symptom: Anxiety states

The occurrence of the symptom "Anxiety states" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.694% (n = 1067) of the non-vaccinated reported that the new symptom Anxiety states had occurred in the last 14 days, compared to 1.11% (n = 92) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.6 times more often than the control group. The difference in proportions has the significance $p = 4 \cdot 10^{-5}$ (Fisher exact test) and an odds ratio of 0.621 (95% confidence interval of 0.501 to 0.778). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.7 in the control group and 2.78 in the vaccinated. Thus, the average severity was 1.03 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.45 (Wilcoxon-Mann-Whitney test) and an effect size of 0.00369.

The average severity of the symptom across all interviews is 1.65 times higher in vaccinated than in the non-vaccinated.



New symptom: Anxiety states

3.27 New symptom: Double vision (diplopia)

The occurrence of the symptom "Double vision (diplopia)" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.123% (n = 189) of the non-vaccinated reported that the new symptom Double vision (diplopia) had occurred in the last 14 days, compared to 0.326% (n = 27) of the vaccinated. Thus, the vaccinated suffered from this complaint 2.66 times more often than the control group. The difference in proportions has the significance $p = 1.8 \cdot 10^{-5}$ (Fisher exact test) and an odds ratio of 0.376 (95% confidence interval of 0.25 to 0.586). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.33 in the control group and 2.22 in the vaccinated. Thus, the average severity was 1.05 times greater in the non-vaccinated than in the vaccinated. The difference in the averages has the significance p = 0.724 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0405.

The average severity of the symptom across all interviews is 2.53 times higher in vaccinated than in the non-vaccinated.



New symptom: Double vision (diplopia)

3.28 New symptom: Concentration difficulties

The occurrence of the symptom "Concentration difficulties" to the question "Have you exerienced a NEW symptom in the last 14 days?".



1.03% (n = 1588) of the non-vaccinated reported that the new symptom Concentration difficulties had occurred in the last 14 days, compared to 2.25% (n = 186) of the vaccinated. Thus, the vaccinated suffered from this complaint 2.18 times more often than the control group. The difference in proportions has the significance $p = 5.24 \cdot 10^{-20}$ (Fisher exact test) and an odds ratio of 0.454 (95% confidence interval of 0.389 to 0.532). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.7 in the control group and 2.82 in the vaccinated. Thus, the average severity was 1.04 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.152 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0244.

The average severity of the symptom across all interviews is 2.27 times higher in vaccinated than in the non-vaccinated.



New symptom: Concentration difficulties

3.29 New symptom: Word finding disorders

The occurrence of the symptom "Word finding disorders" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.508% (n = 781) of the non-vaccinated reported that the new symptom Word finding disorders had occurred in the last 14 days, compared to 1.39% (n = 115) of the vaccinated. Thus, the vaccinated suffered from this complaint 2.74 times more often than the control group. The difference in proportions has the significance $p = 4.48 \cdot 10^{-19}$ (Fisher exact test) and an odds ratio of 0.362 (95% confidence interval of 0.297 to 0.445). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.34 in the control group and 2.4 in the vaccinated. Thus, the average severity was 1.03 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.63 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0111.

The average severity of the symptom across all interviews is 2.81 times higher in vaccinated than in the non-vaccinated.



New symptom: Word finding disorders

3.30 New symptom: Coordination difficulties

The occurrence of the symptom "Coordination difficulties" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.203% (n = 312) of the non-vaccinated reported that the new symptom Coordination difficulties had occurred in the last 14 days, compared to 0.689% (n = 57) of the vaccinated. Thus, the vaccinated suffered from this complaint 3.4 times more often than the control group. The difference in proportions has the significance $p = 1.24 \cdot 10^{-13}$ (Fisher exact test) and an odds ratio of 0.293 (95% confidence interval of 0.22 to 0.396). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.36 in the control group and 2.61 in the vaccinated. Thus, the average severity was 1.11 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.104 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0656.

The average severity of the symptom across all interviews is 3.77 times higher in vaccinated than in the non-vaccinated.



New symptom: Coordination difficulties

3.31 New symptom: Neurological disorders

The occurrence of the symptom "Neurological disorders" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.173% (n = 266) of the non-vaccinated reported that the new symptom Neurological disorders had occurred in the last 14 days, compared to 0.423% (n = 35) of the vaccinated. Thus, the vaccinated suffered from this complaint 2.45 times more often than the control group. The difference in proportions has the significance $p = 8.32 \cdot 10^{-6}$ (Fisher exact test) and an odds ratio of 0.408 (95% confidence interval of 0.286 to 0.598). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.71 in the control group and 2.6 in the vaccinated. Thus, the average severity was 1.04 times greater in the non-vaccinated than in the vaccinated. The difference in the averages has the significance p = 0.746 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0381.

The average severity of the symptom across all interviews is 2.35 times higher in vaccinated than in the non-vaccinated.



New symptom: Neurological disorders

3.32 New symptom: Paresthesia on the skin

The occurrence of the symptom "Paresthesia on the skin" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.401% (n = 617) of the non-vaccinated reported that the new symptom Paresthesia on the skin had occurred in the last 14 days, compared to 0.798% (n = 66) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.99 times more often than the control group. The difference in proportions has the significance $p = 1.19 \cdot 10^{-6}$ (Fisher exact test) and an odds ratio of 0.501 (95% confidence interval of 0.388 to 0.656). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.65 in the control group and 2.97 in the vaccinated. Thus, the average severity was 1.12 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.0293 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0723.

The average severity of the symptom across all interviews is 2.23 times higher in vaccinated than in the non-vaccinated.



New symptom: Paresthesia on the skin

3.33 New symptom: Ekzema, Dermatitis

The occurrence of the symptom "Ekzema, Dermatitis" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.427% (n = 657) of the non-vaccinated reported that the new symptom Ekzema, Dermatitis had occurred in the last 14 days, compared to 1.03% (n = 85) of the vaccinated. Thus, the vaccinated suffered from this complaint 2.41 times more often than the control group. The difference in proportions has the significance $p = 7.08 \cdot 10^{-12}$ (Fisher exact test) and an odds ratio of 0.413 (95% confidence interval of 0.329 to 0.525). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.53 in the control group and 2.59 in the vaccinated. Thus, the average severity was 1.02 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.599 (Wilcoxon-Mann-Whitney test) and an effect size of 0.00922.

The average severity of the symptom across all interviews is 2.46 times higher in vaccinated than in the non-vaccinated.



New symptom: Ekzema, Dermatitis

3.34 New symptom: Allergies

The occurrence of the symptom "Allergies" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.308% (n = 473) of the non-vaccinated reported that the new symptom Allergies had occurred in the last 14 days, compared to 0.653% (n = 54) of the vaccinated. Thus, the vaccinated suffered from this complaint 2.12 times more often than the control group. The difference in proportions has the significance $p = 1.45 \cdot 10^{-6}$ (Fisher exact test) and an odds ratio of 0.47 (95% confidence interval of 0.353 to 0.635). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.56 in the control group and 2.93 in the vaccinated. Thus, the average severity was 1.14 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.0397 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0764.

The average severity of the symptom across all interviews is 2.43 times higher in vaccinated than in the non-vaccinated.



New symptom: Allergies

3.35 New symptom: Herpes zoster

The occurrence of the symptom "Herpes zoster" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.287% (n = 441) of the non-vaccinated reported that the new symptom Herpes zoster had occurred in the last 14 days, compared to 0.447% (n = 37) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.56 times more often than the control group. The difference in proportions has the significance p = 0.0122 (Fisher exact test) and an odds ratio of 0.64 (95% confidence interval of 0.457 to 0.922). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.54 in the control group and 2.81 in the vaccinated. Thus, the average severity was 1.1 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.186 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0409.

The average severity of the symptom across all interviews is 1.72 times higher in vaccinated than in the non-vaccinated.



New symptom: Herpes zoster

3.36 New symptom: Joint inflammation

The occurrence of the symptom "Joint inflammation" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.395% (n = 608) of the non-vaccinated reported that the new symptom Joint inflammation had occurred in the last 14 days, compared to 1.2% (n = 99) of the vaccinated. Thus, the vaccinated suffered from this complaint 3.03 times more often than the control group. The difference in proportions has the significance $p = 2.04 \cdot 10^{-19}$ (Fisher exact test) and an odds ratio of 0.328 (95% confidence interval of 0.264 to 0.41). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.7 in the control group and 2.85 in the vaccinated. Thus, the average severity was 1.06 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.173 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0355.

The average severity of the symptom across all interviews is 3.20 times higher in vaccinated than in the non-vaccinated.



New symptom: Joint inflammation

3.37 New symptom: Overdue menses

The occurrence of the symptom "Overdue menses" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.0832% (n = 128) of the non-vaccinated reported that the new symptom Overdue menses had occurred in the last 14 days, compared to 0.435% (n = 36) of the vaccinated. Thus, the vaccinated suffered from this complaint 5.23 times more often than the control group. The difference in proportions has the significance $p = 1.01 \cdot 10^{-13}$ (Fisher exact test) and an odds ratio of 0.191 (95% confidence interval of 0.131 to 0.284). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 3.37 in the control group and 3.19 in the vaccinated. Thus, the average severity was 1.05 times greater in the non-vaccinated than in the vaccinated. The difference in the averages has the significance p = 0.579 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0156.

The average severity of the symptom across all interviews is 4.96 times higher in vaccinated than in the non-vaccinated.



New symptom: Overdue menses

3.38 New symptom: Increased menstrual problems

The occurrence of the symptom "Increased menstrual problems" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.186% (n = 286) of the non-vaccinated reported that the new symptom Increased menstrual problems had occurred in the last 14 days, compared to 0.351% (n = 29) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.88 times more often than the control group. The difference in proportions has the significance p = 0.0028 (Fisher exact test) and an odds ratio of 0.53 (95% confidence interval of 0.361 to 0.806). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 3.26 in the control group and 2.86 in the vaccinated. Thus, the average severity was 1.14 times greater in the non-vaccinated than in the vaccinated. The difference in the averages has the significance p = 0.0723 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0822.

The average severity of the symptom across all interviews is 1.66 times higher in vaccinated than in the non-vaccinated.



New symptom: Increased menstrual problems

3.39 New symptom: Increased general overall symptoms

The occurrence of the symptom "Increased general overall symptoms" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.332% (n = 511) of the non-vaccinated reported that the new symptom Increased general overall symptoms had occurred in the last 14 days, compared to 0.701% (n = 58) of the vaccinated. Thus, the vaccinated suffered from this complaint 2.11 times more often than the control group. The difference in proportions has the significance $p = 7.76 \cdot 10^{-7}$ (Fisher exact test) and an odds ratio of 0.472 (95% confidence interval of 0.359 to 0.631). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.92 in the control group and 3.03 in the vaccinated. Thus, the average severity was 1.04 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.557 (Wilcoxon-Mann-Whitney test) and an effect size of 0.00602.

The average severity of the symptom across all interviews is 2.19 times higher in vaccinated than in the non-vaccinated.



New symptom: Increased general overall symptoms

3.40 New symptom: Remarkable weight loss

The occurrence of the symptom "Remarkable weight loss" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.185% (n = 285) of the non-vaccinated reported that the new symptom Remarkable weight loss had occurred in the last 14 days, compared to 0.266% (n = 22) of the vaccinated. Thus, the vaccinated suffered from this complaint 1.44 times more often than the control group. The difference in proportions has the significance p = 0.117 (Fisher exact test) and an odds ratio of 0.696 (95% confidence interval of 0.451 to 1.13).

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.5 in the control group and 2.91 in the vaccinated. Thus, the average severity was 1.16 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.194 (Wilcoxon-Mann-Whitney test) and an effect size of 0.0493.

The average severity of the symptom across all interviews is 1.67 times higher in vaccinated than in the non-vaccinated.



New symptom: Remarkable weight loss

3.41 New symptom: Remarkable weight gain

The occurrence of the symptom "Remarkable weight gain" to the question "Have you exerienced a NEW symptom in the last 14 days?".



0.138% (n = 213) of the non-vaccinated reported that the new symptom Remarkable weight gain had occurred in the last 14 days, compared to 0.363% (n = 30) of the vaccinated. Thus, the vaccinated suffered from this complaint 2.62 times more often than the control group. The difference in proportions has the significance $p = 1.11 \cdot 10^{-5}$ (Fisher exact test) and an odds ratio of 0.381 (95% confidence interval of 0.259 to 0.579). The confidence interval does not contain the one and supports the significance statement.

Within those suffering from these symptoms in both cohorts, the average severity of suffering is 2.34 in the control group and 2.77 in the vaccinated. Thus, the average severity was 1.18 times greater in the vaccinated than in the control group. The difference in the averages has the significance p = 0.036 (Wilcoxon-Mann-Whitney test) and an effect size of 0.115.

The average severity of the symptom across all interviews is 3.09 times higher in vaccinated than in the non-vaccinated.



New symptom: Remarkable weight gain

4 Health histories of participants

In the previous chapter, each survey was considered separately, distinguished only by vaccination status at the time. This approach simplifies the statistical modelling, but hides the information that surveys answered by a particular participant are linked. In contrast, this chapter takes a participant-oriented approach. The health histories of the individual participants, which are reflected in the complaints of the survey results, are combined into an overall assessment. Only participants with at least 7 surveys are included.

4.1 Proportion of interviews containing at least one complaint



Symptoms frequency

This shows the proportion of surveys that contained a complaint, persistent complaint or covid disease (X-axis), broken down by cohort (vaccinated, control group), relative to the total number of cohorts (Y-axis, in percentages).

The proportion of participants for whom complaints were recorded at most 15 per cent of the interviews is significantly higher among the unvaccinated. The participants for whom complaints were registered in almost every survey (more than 80%) are almost all vaccinated.

4.2 Rating the overall severity of a participant's complaints

For the following analyses, the complaints are aggregated into an overall severity according to the following rules. More details are given in Appendix A.



Average symptoms severity

This graph shows the average severity of a complaint, persistent complaint or covid disease (X-axis) broken down by cohort (Vaccinated, Control group) relative to the total cohort (Y-axis).

4.3 Rating the overall severity of a participant's complaints by age

Analogous to the previous calculations, here we additionally break down by age, according to 3 cohorts with the cut-offs 60 and 70 years.



4 HEALTH HISTORIES OF PARTICIPANTS

This graph shows the average severity of a complaint, persistent complaint or covid disease (X-axis) broken down by cohort (Vaccinated, Control group) relative to the total cohort (Y-axis). Only unvaccinated people are included in this graph (control group).

The large number of symptom-free participants over 70 years of age is striking.



Only Covid vaccinated people are included in this graph. There are significantly fewer symptom-free than among the unvaccinated, especially in the age group over 70 years. Interestingly, the over-70s with high average severity of complaints are also missing here.



Here the data just shown contrasts the control group with the vaccinated, in the age cohort 70 years and older. Almost half of the unvaccinated but only one third of the vaccinated are symptom-free. Higher severity of symptoms is found almost only in the vaccinated.



The situation is similar for participants aged 60 and over. The graphs underline that the fact that the vaccinated have more severe symptoms applies especially to the elderly.

4.4 Rating the overall severity of a participant's complaints by BMI



In the control group, there is not a very strong dependence of complaint average severity on BMI, with those who are underweight performing the worst.



It is striking that the vaccinated with normal weight show a relatively low average severity similar to the unvaccinated, but the severity of the underweight and overweight is shifted far into the heavier range. The differences here are clearly more pronounced than in the control group.

4.5 Average severity of complaints among those vaccinated for the first time during the monitoring

This graph compares the complaint trajectories before vaccination with the complaint trajectories after vaccination. Relatively few participants are compared here (171 participants were vaccinated during the monitoring period, including only 65 who answered at least 5 surveys each before and after the first vaccination), but there are no confounding factors because the same people are included in both cohorts and only vaccination is the distinguishing factor.



The difference is very eye-catching, especially in the weight-free category. The higher average severity (from 30) only occurs in the post-vaccination phase.

5 Occurrence of symptomatic SARS-CoV2 infection



Did you have Covid-19?

The response to the question 'Have you had a symptomatic SARS-CoV2 infection in the last 14 days' is presented. The response is split by Covid vaccination status. For people who were vaccinated during the interviews, interviews before vaccination are assigned to the control group, and interviews after vaccination are assigned to the vaccinated group.



Did you have Covid-19?

3.18% (n = 4886) of the non-vaccinated reported a new symptom in the last 14 days, compared to 3.74% (n = 309) of the vaccinated. Thus, the vaccinated were 1.18 times more likely to get Covid-19 than the non-vaccinated. The difference in proportions has significance p = 0.00584 (Fisher exact test) and an odds ratio of 0.846 (95% confidence interval 0.752 to 0.954). The confidence interval does not contain one and supports the significance statement.

Average severity of Covid diseases 5.1

30

20

10

0

first

second

5.1.1 Control group



Among the 6095 participants in the control group, 2308 (37.9%) have not gone through a Covid disease. The average age of these people is 52.6, the average BMI is 24.2.

third

Covid disease

fourth

third

2936 of the non-vaccinated (48.2%) have gone through exactly one Covid disease(s). 767 of the non-vaccinated (12.6%) have gone through exactly two Covid disease(s). 78 of the non-vaccinated (1.3%) have gone through exactly three Covid disease(s). 5 of the non-vaccinated (0.1%) have gone through exactly four Covid disease(s). 1 of the non-vaccinated (0.0%) have gone through exactly five Covid disease(s).

3787 of the non-vaccinated (62.1%) have gone through exactly first Covid disease(s). These illnesses had an average severity of 64.9. The average age of these persons is 51.0, the average BMI was 24.3.

5 OCCURRENCE OF SYMPTOMATIC SARS-COV2 INFECTION

851 of the non-vaccinated (14.0%) have gone through exactly second Covid disease(s). These illnesses had an average severity of 50.5. The average age of these persons is 50.3, the average BMI was 24.2.

84 of the non-vaccinated (1.4%) have gone through exactly third Covid disease(s). These illnesses had an average severity of 40.8. The average age of these persons is 50.4, the average BMI was 24.2.

6 of the non-vaccinated (0.1%) have gone through exactly fourth Covid disease(s). These illnesses had an average severity of 34.2. The average age of these persons is 53.3, the average BMI was 22.6.

1 of the non-vaccinated (0.0%) have gone through exactly fifth Covid disease(s). These illnesses had an average severity of 99.0. The average age of these persons is 44.0, the average BMI was 23.6.

5.1.2 Covid vaccinated



Severity of Covid diseases for vaccinated

Among the 325 participants which have been vaccinated without prior Covid disease, 132 (40.6%) have not gone through a Covid disease afterwards. The average age of of these people is 54.2, the average BMI is 24.3.

166 of the vaccinated without prior Covid disease (51.1%) have gone through exactly one Covid disease(s). 25 of the vaccinated without prior Covid disease (7.7%) have gone through exactly two Covid disease(s). 2 of the vaccinated without prior Covid disease (0.6%) have gone through exactly three Covid disease(s).

193 of the vaccinated (59.4%) have gone through a first Covid disease(s). These illnesses had an average severity of 67.6. The average age of these persons is 52.6, the average BMI was 25.0.

27 of the vaccinated (8.3%) have gone through a second Covid disease(s). These illnesses had an average severity of 55.2. The average age of these persons is 52.4, the average BMI was 24.8.

2 of the vaccinated (0.6%) have gone through a third Covid disease(s). These illnesses had an average severity of 38.0. The average age of these persons is 45.5, the average BMI was 22.9.



5.1.3 Covid vaccinated after Covid disease

Among the 31 participants which have been vaccinated after a Covid disease, 17 (54.8%) have not gone through a Covid disease after the vaccination. The average age of of these people is 57.7, the average

BMI is 23.9.

13 of the vaccinated after a Covid disease (41.9%) have gone through exactly one additional Covid disease(s). 1 of the vaccinated after a Covid disease (3.2%) have gone through exactly two additional Covid disease(s).

14 of the vaccinated after a Covid disease (45.2%) have gone through a first additional Covid disease(s). These illnesses had an average severity of 69.2. The average age of these persons is 51.6, the average BMI was 24.9.

1 of the vaccinated after a Covid disease (3.2%) have gone through a second additional Covid disease(s). These illnesses had an average severity of 27.0. The average age of these persons is 68.0, the average BMI was 19.1.

5.2 Average intervals



Within the control group, the average interval between two Covid diseases was 180 days (854 cases). For the vaccinated, the average interval between two Covid diseases was 187 days (34 cases). The average interval between Covid vaccination and the next Covid disease was 191 days (208 cases). 6 INVESTIGATING THE IMPACT OF THE FIRST COVID DISEASE ON THE CONTROL GROUP 72

6 Investigating the impact of the first covid disease on the control group

The subject of the investigations in this section is the question of whether Covid disease changes the severity of complaints, whereby only the control group, i.e. the unvaccinated, is concerned here. Only participants who completed enough surveys both before and after Covid are counted.



1802 members of the control group have at least 5 surveys both before and after the first covid illness. The average severity of complaints and diagnoses before the first Covid disease is 5.2 (20704 surveys). The average severity of complaints and diagnoses after the first Covid disease is 5.8 (30173 surveys). The average severity of first covid disease is 47.4. The following graphs shows the same information broken down to the types of complaints or diagnoses.


Symptom severity by category

The average severity of complaints before the first Covid disease is 4.3, after 3.4. The average severity of diagnoses before the first Covid disease is 0.9, after 1.0. The average severity of Covid diseases after the first Covid disease is 0.4. The average severity of sustained complaints before the first Covid disease is 0.0, after 1.1. The average severity of the first Covid disease is 32.4. The average severity of additional complaints in the first Covid disease is 0.4. The average severity of diagnoses in the first Covid disease is 1.3. The average severity of sustained complaints in the first Covid disease is 1.3.

7 First-time vaccinated during the monitoring

67 participants started the surveys as unvaccinated and were vaccinated during the study, and have completed at least 5 surveys both before and after the vaccination.



40 (59.7%) had more often surveys with new symptoms after the vacciantion, 19 (28.4%) had less often surveys with news symptoms after the vaccination, 8 (11.9%) had the same ratio of surveys with new symptoms. The frequency of surveys with new symptoms increased by 8.1 percent points on average.



46 (68.7%) had a higher total symptom severity after the vaccination, 15 (22.4%) had a lower total symptom severity after the vaccination, 6 (9.0%) the total symptom severity was unchanged. The total severity of symptoms rose by 7.8 on average.

8 APPENDIX

8 Appendix

8.1 Appendix A, Total symptoms' severity

In order to aggregate the many different symptoms into an overall state of unhappiness, the following simplifications are made:

- The different types of symptoms are aggregated into a numerical value, with symptoms that indicate severe illness per sé being given high numerical values. For example, a cold and a sore throat are given the lowest value of 1, while kidney failure, heart attack and stroke are given the highest value of 9. For details, see Appendix B.
- A numerical value is assigned to the different severity of symptoms, namely "very mild" a 1, "mild" a 2, "medium" a 3, "severe" a 4 and "very severe" a 5.
- For the overall rating of a complaint, the numerical value of the complaint is multiplied by the numerical value of the severity *multiplied*.
- The different symptoms and diagnoses of a survey are added up to an overall rating of the survey. Any persistent symptoms, symptoms of a covid disease and symptoms as vaccination side effects are also added.
- The overall health status of a participant is assessed with the *arithmetic mean* of the total score of all surveys.
- For participants who received the first Covid vaccination within the monitoring period, two scores are taken for the evaluations broken down by vaccination status: one from all surveys before the first Covid vaccination, the other from all surveys after the first Covid vaccination.
- Only participants with 7 or more surveys are scored.

8 APPENDIX

8.2 Appendix B, Symptom values

8.2.1 Symptoms

Rhinitis	1
Sore throat	1
Cough	2
Aching limbs	3
Chills	3
Fever	3
Cardiovascular problems	6
Bruising	6
Blood clotting disorders	6
TTP (thrombotic thrombocytopenic purpura)	8
Disorder of the lymphatic system	6
Respiratory problems	6
Gastrointestinal disorders	4
Food intolerances	4
Loss of smell	2
Chest pain	5
Headaches	5
Fatigue	4
Lack of drive	5
Insomnia	4
Restlessness	4
Irritability	4
Anxiety	6
Double vision	5
Difficulty concentrating	6
Difficulty finding words	7
Coordination difficulties	7
Neurological disorders	6
Sensory disturbances of the skin	5
Eczema, dermatitis	3
Allergies	3
Allergic shock	6
Herpes zoster	5
Joint inflammation	5
Menstrual irregularities	5
Increased menstrual cramps	5
Common symptoms (e.g. migraine) better	0
General symptoms increased	2
Noticeable weight loss	4
Noticeable weight gain	4
Kidney failure	9
Heart attack	9
Stroke	9
Paralysis	8

8 APPENDIX

8.2.2 Diagnoses

Cardiovascular disease (diseases of the heart and blood vessels)	7
High blood pressure (hypertension)	1
Blood clotting disorders	6
Anaemia	1
Respiratory disease (e.g. bronchitis, asthma, COPD)	6
Musculoskeletal and connective tissue disorders (e.g. rheumatism, arthritis)	6
Disease of the skin	4
Disease of the lymphatic system	6
Neurological disease	7
Eye disease	7
Chronic headache / migraine	6
Chronic gastrointestinal disorder	6
Disease of the lower abdominal organs (gynaecological symptoms)	6
Kidney disease	7
Metabolic disease (e.g. diabetes mellitus)	7
Thyroid disease	7
Mental illness	6
Past or present cancer	8
Autoimmune disease	8
Allergies/hay fever	3
Epilepsy	7

8.2.3 Persisting symptoms

Cardiovascular symptoms	6
Breathing difficulties	6
Loss of smell	2
Chest pain	5
Headache	5
Fatigue	4
Difficulty concentrating	6
Anxiety or sleep disturbance	6

8.2.4 Symptoms of a Covid-19 disease

Rhinitis	1
Sore throat	1
Cough	2
Aching limbs	3
Chills	3
Fever	3
Cardiovascular problems	6
Difficulty breathing	6
Loss of smell	2
Chest pain	5
Headache	5
Fatigue	4
Weight loss	4