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Expert evaluation on adverse effects of the Pfizer-COVID-19 vaccination

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I, Hervé Seligmann, am writing this evaluation at the request of several people all over the world, for submission to any Court worldwide.

I am a biomedical researcher of Israeli and Luxemburgish nationality, with over 100 peer-reviewed international publications. My proven record includes detecting in widely known and publicized data phenomena that escaped previous examinations. This includes the descriptions of two previously unknown types of RNA transcriptions, and of unsuspected structures in the genetic code that link gene and protein structures. I worked 5 years with Professor Didier Raoult at the Institut Hospitalo-Universitaire in Marseille, a first rank microbiology institute in the study of infectious diseases. I am an independent researcher with no conflicts of interest.

This evaluation summarizes several articles written with Haim Yativ and published on the nakim.org website and presented in our petition to the Israel Supreme Court.

Overview

Any medical treatment must be evaluated along a cost-benefit analysis. No treatment is risk free. It is in this respect that transparent availability of risk-group-stratified data on potential effects of vaccination, as compared to corresponding unvaccinated groups, must be available. These should be analysed by specialists free of any suspicions of conflicts of interests. The publication and unbiased discussion of their results must be facilitated, not hindered. Below I describe several potential negative vaccine effects, including vaccination-associated, documented 3- and 20-fold increases in infection and death rates, respectively. These cast serious doubts on positive outcomes of the above-mentioned cost-benefit analysis, which seems absent from public discourse. Further analyses show for ages 20-90 that increases in vaccination-associated mortality are inversely proportional to age, up to 60 % for those aged 20-24. Extrapolating these results for ages below 20 expects mortality increases beyond 100 % for those younger than 5.

It is essential to account for adverse vaccine effects during the period of vaccination. Most publications on COVID19-vaccination in Israel only refer to the period after full vaccination. This is misleading and tantamount to only tell cancer patients their survival rates after they survived a successful treatment. Standard estimations of treatment success include risks during the treatment, which is often a period of increased risks, as suggested below.

Below we detail a cost-benefit analysis focused on vaccine-associated COVID19 deaths, but not accounting for non-COVID19-associated, vaccination-associated deaths of two datasets released by the Israel Ministry of Health on February 11 in Ynet and on March 11 on correctiv.org. These reanalyses show that deaths occurring during the 5-week vaccination period and the first weeks after full vaccination, would require full vaccine protection against COVID19 over a postvaccination period of about 674.31 days (1.85 years or 22.2 months) for the Ynet data and 829.83 days (2.27 years or 27.3 months) for the correctiv.org data to compensate for the excess in COVID19 deaths occurring during and just after to the vaccination process. This assumes full vaccine protection, which is unrealistic, and does not account for adverse effects unrelated to COVID19. Accounting for these would lengthen the compensatory period required to reach a net cost-benefit balance of zero additional deaths due to vaccination.

Hence, one can estimate that in order for this vaccine to bear actual life-saving benefits, effective protection should last at least 2.5 (Ynet data from February 11) or 3 (correctiv.org data from March

11) years. The differences between datasets are because sample sizes are much larger and data on vaccine effects span a longer time period after full vaccination in the latter than in the former. Hence, the longer, least optimistic estimate is the most likely. This is why vaccination cost-benefit analyses favour vaccination only against organisms with stable genomes, meaning with low mutation rates. RNA genomes are the most mutable ones known.

A priori, the Israeli RNA-based vaccination has several potential risks. Vaccination works as a prophylactic. Vaccination of individuals while they are exposed to a pandemic has several adverse consequences.

1. Vaccination processes usually imply temporary immune system weakening, before vaccine-induced immunity is acquired. Hence, the vaccinated are fragilized during the vaccination process, and more likely to develop any diseases against which the immune system usually defends the body. This includes any viral and bacterial infections, and individual cancer cells that would escape extermination by the immune system during this vaccination-induced weakened period. This could cause cancer in the medium- or long-term.

2. In the long-term, the antibodies induced by the RNA vaccine will cause autoimmune reactions to the cells producing the viral protein encoded by the vaccine RNA, and to cells with natural human proteins resembling the viral protein encoded by the vaccine RNA.

3. Massive vaccination might select vaccine-resistant viral variants with likely catastrophic effects, especially on the vaccinated.

4. RNA from the vaccine will in some cases integrate chromosomes of the vaccinated, with potentially harmful consequences difficult to evaluate at this point. Any claim to the contrary is misleading and misinformed. Human chromosomes integrated genomes of retroviruses that include RNA->DNA reverse transcriptase genes. This was the topic of the 1976 Nobel prize in Physiology and could not be ignored by competent professionals.

Reanalyses of two separate bodies of data, one published by the Israel Ministry of Health (Table 1) and one by the team of Dan Balicer from Clalit (our reanalyses of data from Dagan et al 2021), indicate adverse effects due to the 5-week vaccination process, as compared to the unvaccinated. Eight among ten authors of Dagan et al disclose receiving funds for other projects from Pfizer. Pfizer is also a main funder of the Israeli Ministry of Health. Hence, these are not unbiased, neutral and independent bodies, which is required for any study, and especially studies with such crucial consequences.

Preliminary cost-benefice evaluation of COVID19 vaccination

Tables 1 and 2 show that death rates for each period during and after the vaccination process are greater than for the unvaccinated, as defined by those that did not yet get any vaccine dose, and when accounting for differences in sample sizes and durations of the different vaccination statuses. This effect might be confounded by differences in ages for the different groups. Transparency, meaning additional data in relation to age and risk classes, is requested to answer this and other questions. Table 1 are data from the Ministry of Health published in a Ynet article released on February 11. Table 2 is for data released on March 11.

We detail here the cost analyses regarding vaccine-associated COVID19 deaths according to Table 1. For those above 60, during the first 14 days after 1st dose injection, deaths are 14.6 times more frequent per day than for unvaccinated. This means that in order to compensate for these excess deaths, 14.6x14 days = 204.4 days of absolute protection against COVID19 are necessary to have a net cost-benefit of 0 for that first period after 1st dose injection. A similar calculation shows that for the 3d week after 1st injection, compensating increased deaths as compared to the unvaccinated would require an additional 24.23x7 days = 169.61 days of full vaccine protection against COVID19. The first week after the 2nd injection requires 26.85x7 days = 187.95 days of full vaccine protection

against COVID19 to compensate the excess COVID19 deaths occurring during that period. The second week after 2nd dose injection requires 18.38x7 days = 128.66 days of full vaccine protection. In total, compensation to reach 0 cost-benefit requires 690.62 full vaccine protection against COVID19 for the elderly. Note that this does not include vaccine induced deaths unrelated to COVID19, and that vaccine protection is not absolute.

	Community	Low	Mean	Serious	Critical	Died	Total	Days	Died/day/tot	Died/unvacc
>60 years	13075	323	314	865	183	636	15396			
1st	10724	259	277	742	152	546	12700			
0-13d	6235	147	166	465	81	344	7438	14	0.003303	14.60
>13d	4489	112	111	277	71	202	5262	7	0.005484	24.23
2nd	2351	64	37	123	31	90	2696			
0-6d	1043	24	11	57	13	51	1199	7	0.006076	26.85
7-14d	1037	32	25	56	17	35	1202	7	0.00416	18.38
>14d	271	8	1	10	1	4	295	9	0.001507	6.66
<60 years	28018	138	92	166	37	24	28475			
1st	25926	125	87	153	34	22	26347			
0-13d	19461	96	66	124	29	17	19793	14	0.0000613	23.86
>13d	6463	29	21	29	5	5	6552	7	0.000109	42.40
other	2						2			
2nd	2092	13	5	13	3	2	2128			
0-6d	1167	8	0	4	1	2	1182	7	0.0002417	94.00
7-14d	761	4	4	8	2	0	779	7	0	
>14d	164	1	1	1	0	0	167	9	0	
All ages	41093	461	406	1031	220	660	43871			

Unvaccinated, >60 years	0.00022631
Unvaccinated, <60 years	0.00000257

Table 1. COVID-19 state according to vaccination status and according to two age classes, as of February 11. Our additions are highlighted. Death rates per day for unvaccinated are estimated for the 303 days from March 1 to December 20, before vaccination (data from worldometer: 374760 total cases, 3099 deaths). Percentages of cases and deaths for the two age classes (below and above 60 years) are calculated from age-stratified data published by the health insurance company Clalit since the pandemic started until March 22 2021 (Supplementary tables 1 and 2), https://www.clalit.co.il/he/your_health/family/Pages/corona_in_israel.aspx (those above 60 are 11.049% of all COVID19 cases and 91.62% of all COVID19 deaths).

The same calculations for those less than 60 years old result in a minimal compensatory period of 94x7 days = 658 days of full vaccine protection against COVID19. Pooling both age classes, on average, in order to not lose more lives than gain lives due to vaccination, the protective effects of the vaccine, without costs associated with 3d and more shots, would have to be absolute and with no other vaccine-related but COVID19-unrelated deaths for a period of at least 658 days. One would start reap benefits from vaccination only after an unrealistically long period of at least 658 days during which the RNA virus would be stable enough so that vaccine protection does not decrease. All these unrealistic conditions imply that Pfizer vaccination will not benefit the vaccinated population.

We detail here the cost-benefit analysis based on the data from Table 2. This follows the same method as applied for Table 1. During the 21-day period between the 2 injections, daily vaccinated COVID19 death rates are 11.65 times greater than for the unvaccinated, requiring 11.65x21 = 244.65 days of full postvaccination protection against COVID19 to compensate excess deaths occurring in association with the 1st dose. Applied to the first 7 days after the 2nd injection, compensation requires 14.82x7 days = 195.44 days. Applied to the longer, 26 days period after the first week after 2nd injection, this rationale shows that compensation requires 14.99x26 days = 389.74 days.

COVID-19 status\Vacc. status	Unvacc.	1st dose	2nd dose < 7 days	2nd dose > 7 days
Community (asymptomatic)	358454	51571	7675	4622
Light	3257	587	100	106
Medium	1454	466	54	59
Serious	3381	1083	165	149
Critical	714	172	17	37
Deceased	1566	709	84	105
Total	368826	54588	8095	5078
Days	80	21	7	~26 (1-52)
Dead per day/total/10000	0.531	6.18	14.82	7.95 (210- 3.98)
Mortality increase vs unvacc.		11.65	27.92	14.99 (390- 7.49)
Percent asymptomatic	97.19	94.47	94.81	91.02
Percent/day symptomatic	0.0352	0.2632	0.7412	0.3454 (8.98-0.17)
Increase symptomatic/unvacc.		7.49	21.09	9.83 (255.46-4.91)

Table 2. Table from https://correctiv.org/faktencheck/2021/03/11/covid-19-in-israel-nein-die-impfung-erzeugt-keine-40-mal-hoehere-sterblichkeit/. Data from the Health Ministry show the COVID-19 cases for the period from December 20 until March 10. Translated from the Hebrew into English. Our additions are highlighted. Mortality rate increases are all statistically significant at P < 0.0001.

Hence, compensation for excess vaccine-associated deaths occurring during the period covered by Table 2 would require 829.83 days of absolute vaccine protection against COVID19, not accounting for additional vaccine-associated deaths unrelated to COVID19, and disregarding that vaccine protection is not absolute. This means that in order to reap life saving benefits from the Pfizer vaccination, more than 27.28 months of stable perfect vaccine protection against the mutable RNA coronavirus is required. This is unrealistic and means there will be only costs, and no benefits to this massive vaccination project for the vaccinated population.

Extrapolating increased vaccination-associated risks for younger, yet unvaccinated age groups

No data are available at this point for children less than 15 years old. However, one can expect their most likely overall reaction to vaccines the following way. The stronger the immune system, the less likely one is to develop COVID19-induced symptoms. Hence, the elderly are more affected than young adults, men more than women, and people with pre-existing conditions, obese included, than the physically fit. Vaccine adverse reactions tend to behave the opposite way. They are proportional to the strength of the immune system, as many adverse effects associated to vaccines are immune system overreactions. These are more prevalent in younger adults and in women, the opposite demographic picture than for COVID19.

This point can be applied also to the very young, as shown by a detailed analysis of mortalities as a function of age after pooling VAERS data from all vaccines for the years 1990 to 2020, Figure 1A. Mortality due to adverse vaccine effects is greater for the very young, than for the elderly, even for traditional vaccines.

A detailed examination of mortalities from 1 to 75 years old confirms this, keeping in mind that vaccine-induced mortalities increase further towards ages younger than 1 year. Figure 1B shows that vaccine induced mortalities are lowest for those 33 years of age, and more or less gradually increase from that age towards younger and older ages. The profile of vaccine-induced mortalities as a function of age is roughly parallel for COVID19 vaccines as it is for other vaccines for ages over 30, with systematically greater mortalities for any age for COVID19 vaccines than other vaccines, Figure 1C. There is no reason, a priori, that this parallel will not hold for the younger age, and that COVID19 vaccine mortalities increase towards younger ages as compared to those in their thirties, and this probably at a paste greater than for other vaccines.

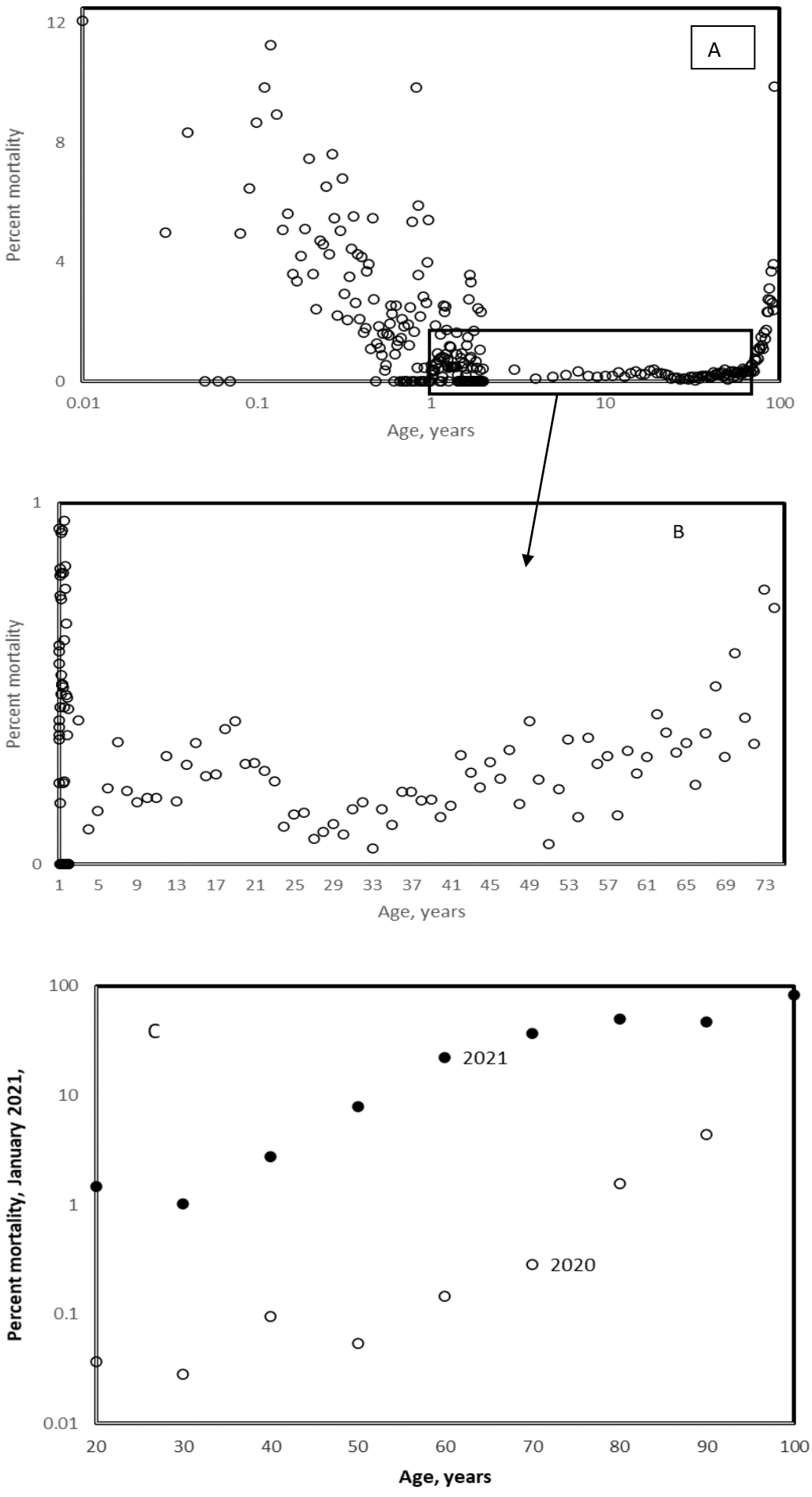

Figure 1. Vaccine mortality as a function of age. A and B, pooled data from 1990 to 2020. C, January 2021 downloaded February 2021 compared to the whole year of 2020. (Source: U.S VAERS)

These observations are in line with the hypothesis that vaccine adverse reactions increase with immune system strength, included for the young and the very young. This is also expected for COVID19 vaccines for the younger age groups. COVID19-vaccine-induced mortalities are at least tenfold those for other vaccines for all ages above 20, Figure 1C. Similar ratios are expected for younger ages, predicting even less tolerable death rates.

The self-reported VAERS data are biased. However, independent unbiased data confirm the suspected increase in COVID19-vaccine-induced mortality in the young.

Age	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+
2020	27	33	40	42	78	127	148	250	397	536	791	725	1218	1332	1700
2021	44	45	49	66	92	123	172	272	435	602	978	899	1284	1371	1770
% change	63	36.4	22.5	57.1	17.9	-3.1	16.2	8.8	9.6	12.3	23.6	24	5.4	2.9	4.1

Table 3. Deaths in Israel by age classes above 20 for February 4th -March 2020 (very few COVID19 deaths and no vaccination) and the same period in 2021 (COVID19 with vaccination, Covid19 was open to all above age 16 on Feb 4th 2021). In both years this two-month period included a lockdown. (source: Israeli Central Bureau of Statistics)

The relative increase in deaths for 2021 vs 2020 is highest for younger ages (Figure 2). Extrapolating to ages <20 (Figure 2), predicts increases in deaths for ages <20 that confirm the high vaccine-associated mortalities for the young observed in the VAERS data in Figure 1. Note that these are minimal values because such data are frequently updated up to 1 year after death.

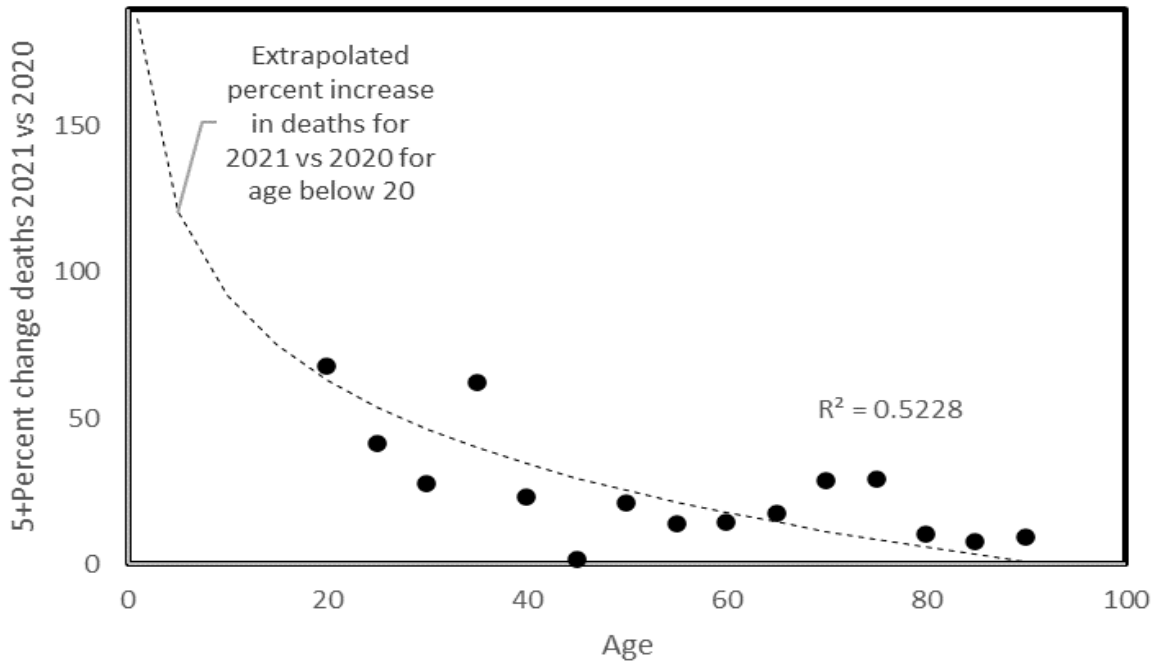

Figure 2. Percent increase in mortalities in Israel by age groups spanning 5 years for ages above 20 in February-March 2021 as compared to February-March 2020, data from Table 3.

One can speculate on whether the relative increase in deaths in February-March 2021 as compared to that period in 2020 is due to COVID19 or to the synergy between COVID19 and vaccination. We use the data in supplementary tables S1 and S2 for age specific COVID19 incidences and deaths from the health insurance company Clalit to predict age-specific COVID19 deaths. The data from tables S1 and S2 span mainly the period of the pandemic before vaccination. As these data are collected over 13 months, in order to compare them to increases in February-March 2021 vs the same months in

2020, numbers of age-specific COVID19 deaths from 2020 were adjusted to correspond to the 2 month period of vaccination for all in 2021 in Table 5.

We test whether these age-specific COVID19 deaths predict the increase in deaths in February-March 2021 as compared to 2020. The assumption is that increases in deaths are due to COVID19, or to a synergy between COVID19 and vaccination.

Figure 3 plots observed age-specific differences between deaths for February-March 2020 subtracted from those for 2021 as a function of values predicted when applying data from the supplementary tables S1 and S2, which relate mainly to COVID19 deaths in 2020. These observed and expected values are proportional, with 93.79% of the variation in observed deaths numbers explained by expected values. This means that one can use the least square regression equation in Figure 3 to predict excess deaths for age classes below 20 years in 2021 as compared to 2020.

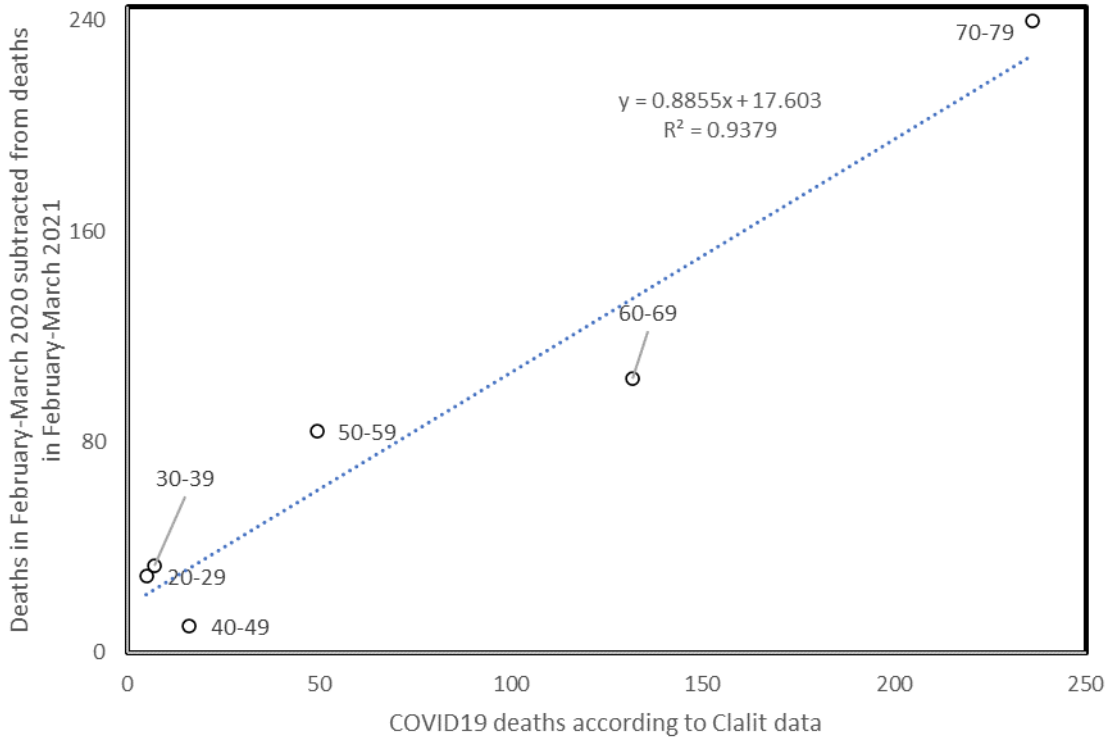

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Figure 3. Age-specific excess deaths in February-March 2021 vs 2020 as a function of age-specific COVID19 deaths expected during 2 months according to data from the whole pandemy.

The predicted COVID19 deaths for February-March 2021 using the equation in Figure 3 are 18.28 for ages 0-9 and 18.15 for ages 10-19. These are 23.8 and 29.5 times more than numbers of age-specific COVID19 deaths from the Clalit data for these ages. Figure 4 plots the ratios between the data as a function of age.

Results show again that the ratio decreases with age. This means that younger ages have higher death rates in February-March 2021 than in 2020 considering age-specific COVID19 death rates. We interprete that these high ratios are due to COVID19-vaccination synergy. Hence, vaccination would increase deaths by a factor of at least 20 due to COVID19. The main relative increases in vaccination-associated deaths will occur according to our calculation for ages below 40. We refrain from conclusions for those above 50 in February-March 2021, because most in these age groups were vaccinated in December 2020-January 2021, and for which mortality increased during that earlier period.

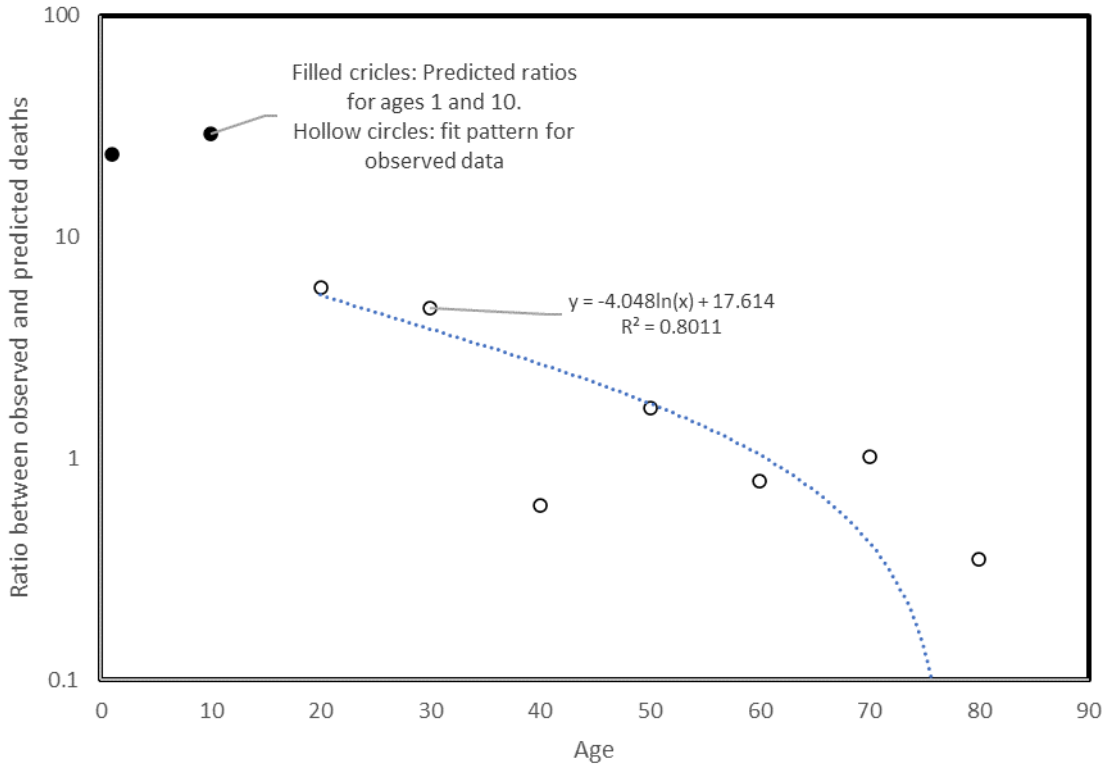

Figure 4. Ratio between observed and expected deaths for February-March 2021 vs 2020. The ratio decreases with age. Filled circles are expected ratios for ages 1 and 10, hollow circles are for observed data.

Note that these results assume that death counts for February-March 2021 are complete, which they are not, as these values are updated up to one year later. Hence, ratios are probably more extreme than shown. These are predictions that are to be considered as minimal, especially for the younger ages, probably highly underestimate the real effects of the vaccine. Increase in death rates for those below 3 years in Figure 1 are so high that one can expect the actual ratio in Figure 4 for this age group is much above our predicted 23.8.

Increased COVID19 infection rates between 1st and 2nd injections

We reanalysed the data presented in table S7 published by the team of Dan Balicer (Dagan et al 2021) in the New England Journal of Medicine. Figure 3 shows a 3-fold increase in the daily COVID-19 detection rate during the first 7 days after first dose injection. The rate decreases to its initial baseline and stabilises at that rate between days 20 to 28 after first dose injection. It decreases below that rate after that, indicating vaccine protection from day 35 on after first dose injection, which is 14 days after the second dose. COVID-19 detection is the only adverse event reported by Dagan et al. This suggests an overall weakening of the immune system within the 3 weeks between doses. Figure 3 suggests that if one decides to get vaccinated, a hard 5-week quarantine is essential to avoid any exposure to contamination during the vaccine-induced 3-week immune system fragilization, as well as a 2-week before 1st dose injection, to avoid vaccinating those that are already infected, and to avoid further contamination of others during that period.

Balanced evaluation of short- and long-term vaccine benefits requires cumulating all adverse event types during and after the vaccination process, as compared to before initiating that process.

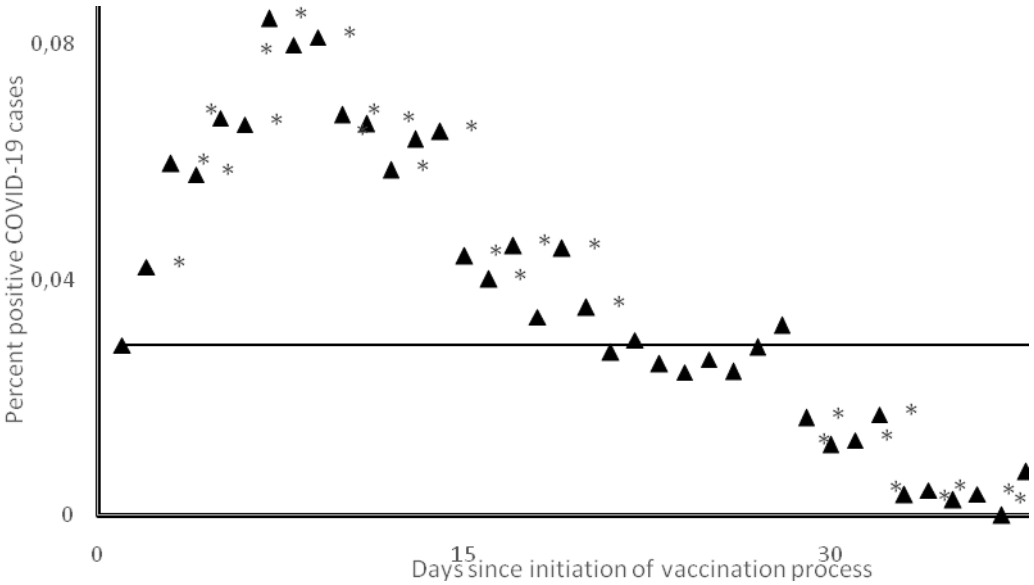

Figure 5. Daily vaccinated COVID-19 incidences vs days since 1st dose. Baseline: day 1 COVID-19 incidence. *: P < 0.05 vs baseline. Data from Dagan et al N Eng J Med 2021; 10.1056/NEJMoa2101765

Vaccination against COVID19 drives COVID19 spread

Increased COVID19 infections during first three weeks after the first Pfizer injection (Figure 5) predicts at the population level positive associations between vaccination rates and incidences of new COVID19 cases within this 3-week time frame.

We test the predicted positive association between daily cases and daily vaccination rates by examining daily case numbers since vaccination project started on December 20 2020, data from worldometer, Israel COVID: 837,492 Cases and 6,346 Deaths - Worldometer (worldometers.info), and daily cumulative percentages of Israelis with at least one injection, Coronavirus (COVID-19) Vaccinations - Statistics and Research - Our World in Data, both accessed April 22 2021.

Pearson correlation coefficients r were calculated between daily COVID19 cases, April 9-21 (188, 137, 122, 225, 176, 170, 202, undetermined, 142, 165, 171, 139 and 135) and a running window of 13 consecutive days for daily increases in vaccinated percentages (Table 4, column 2).

Lag \r	Israel	Portugal
0	0.066	-0.192
1	0.499*	-0.335
2	-0.081	-0.194
3	-0.062	-0.059
4	0.291	0.046
5	0.071	-0.017
6	-0.098	0.248
7	0.315	0.640**
8	0.712**	0.531**
9	-0.174	-0.164
10	-0.164	-0.644**

11	0.246	-0.314
12	-0.316	0.057
13	-0.213	0.126
14	0.252	0.469
15	0.141	0.018
16	-0.335	-0.080
17	-0.574**	-0.295
18	0.243	-0.253
19	0.217	0.321
20	-0.605**	0.454
21	0.270	0.016
22	0.540**	-0.102
23	-0.106	-0.120
24	0.012	-0.297
25	0.306	-0.084
26	-0.008	0.248
27	-0.179	0.307
28	0.470	0.073
29	0.720**	0.261
30	-0.049	-0.272

Table 4. Pearson correlation coefficient r between daily new Israeli COVID cases (April 9-21) and daily increases in vaccination percentages over a backward running window of 13 consecutive days, starting April 21 (Column 2), and for data from Portugal (April 11-23, Column 3). *: $P < 0.05$; **: $P < 0.05$ adjusted for test multiplicity (Benjamini and Hochberg 1995), 2-tailed tests.

The highest correlation between daily cases and vaccination percentages is for a timelag of 8 days between vaccination and subsequent new COVID19 cases (Figure 6). Negative associations between vaccination and cases occur after a timelag of 17 and 20 days after vaccination, which is compatible with the onset of vaccine protection before the 2nd injection. There also are positive associations at timelags 22 and 29, which could be due to the 2nd injection.

Among countries with more than 20% vaccinated, we found for Portugal a period when April daily case numbers are approximately stable in relation to time (April 23-March 7). In order to simplify comparisons with results from Israel, we used daily new COVID19 cases for the 13 last days (April 11-23, 566, 271, 408, 684, 501, 553, 649, 441, 220, 424, 610, 636, 506) and calculated correlations with daily vaccinations, moving backwards the window for vaccinations over 29 days (Table 4, column 3). Vaccination percentages correlate positively with case numbers seven and eight days later ($r = 0.64$, $P = 0.009$; and $r = 0.531$, $P = 0.031$, one-tailed tests), in line with results from Israel.

Daily numbers of new COVID19 cases varies in relation to weekdays, with low numbers on Sunday and Monday increasing during the rest of the week in most countries. This would cause positive correlations at lags that are multiples of 7, which is not the case for data in Table 4.

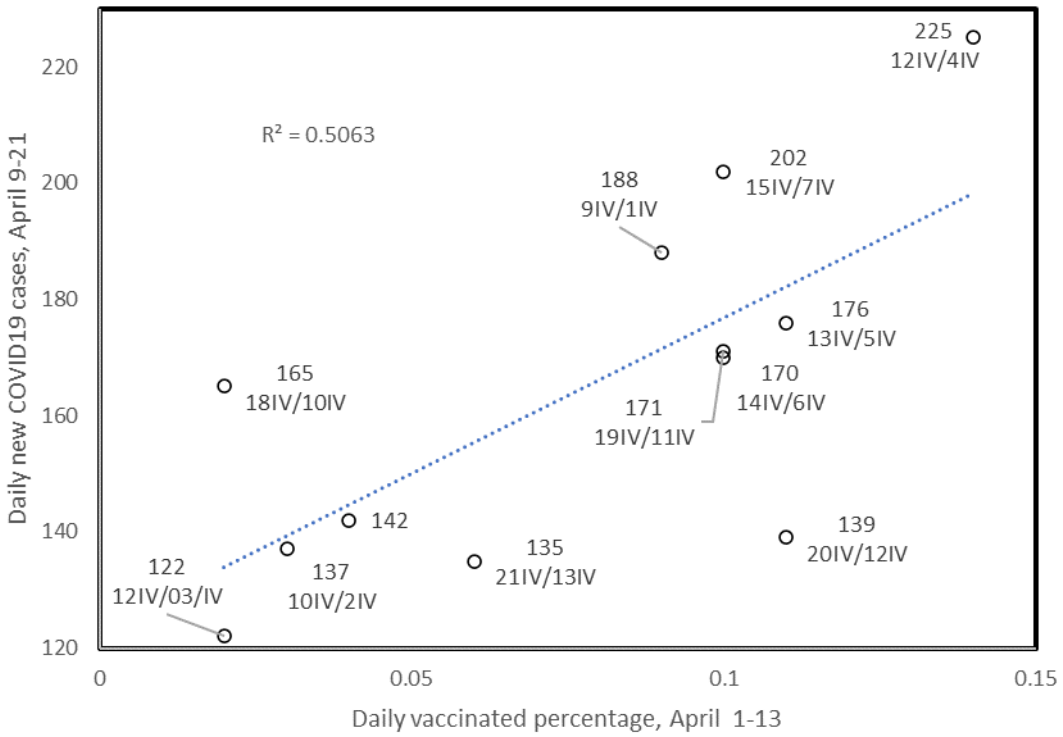

Figure 6. Daily new COVID19 cases (April 9-21) as a function of daily increase in vaccination percentage (April 1-13). Values near datapoints indicate new case numbers at the date indicated below the value, followed by the date of the vaccination percentage from the x-axis.

Data for April 2021 from Israel and Portugal confirm at population level a vaccine-induced increase in COVID19 infection rates seven to eight days after injection, and seven to eight days after second injection in Israel. In Israel only the Pfizer vaccine is in use, whereas Portugal uses several other vaccines in addition to Pfizer's.

The coherence between analyses in Figures 5 and 6 and Table 4 confirms short term vaccination-induced increases in COVID19 cases at population dynamics levels. This also strengthens suspicions that this increase reflects a generalized vaccine-induced weakening of the immune system that probably has non-COVID19 negative effects. Increases in COVID19 cases have been observed in various countries shortly after vaccination projects were initiated. Observations reported here suggest this is no mere coincidence and stress that massive vaccination against COVID19 should be reexamined. We repeated these analyses on a state-by-state basis for India (35 states) and the USA (data compatible with this type of analysis were available only for 40 states). In India, a majority of states have positive correlations between vaccination and ulterior COVID19 case numbers with $P < 0.05$ at time lags 14 to 17. For the USA, most states have positive correlations with $P < 0.05$ 3-5 days after vaccination (Figure 7, Wisconsin, time lag 4 days).

These differences between regions and countries in time lags between vaccination and increased COVID19 incidences might result from usage of different vaccines. More likely, this might reflect genetic differences, different life habits, physical activities, food, and no least, immune system robustness. The latter reason might be why in India it takes 2 weeks for COVID19 cases to increase after vaccination.

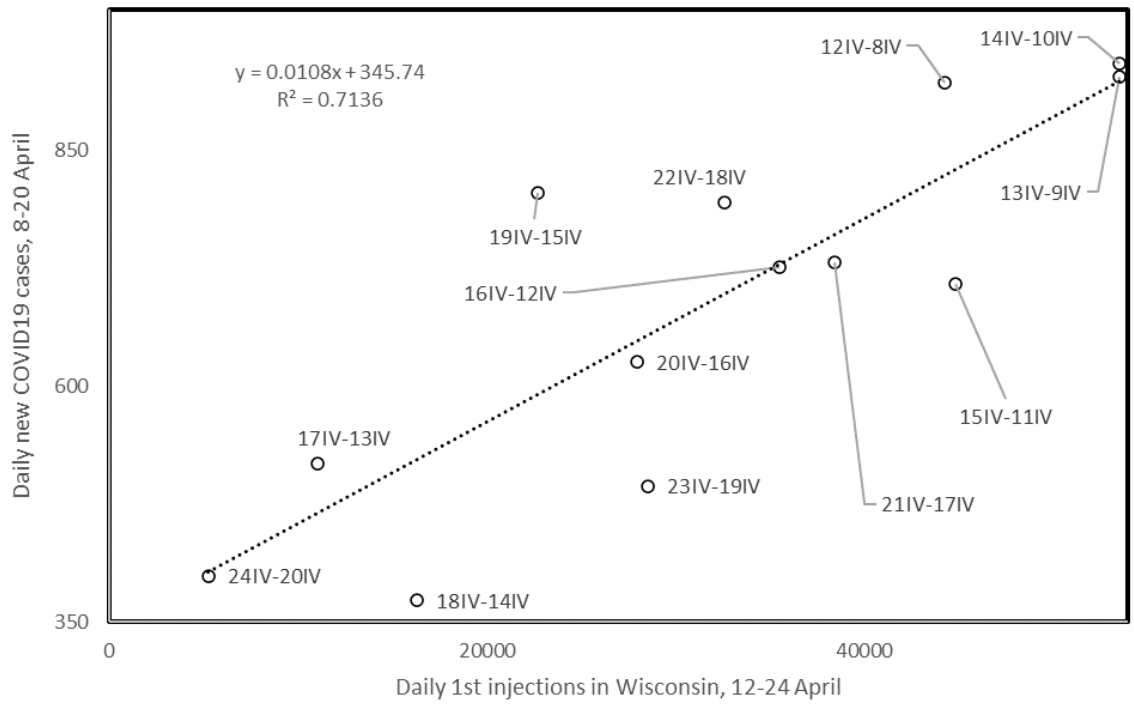

Figure 7. Daily new COVID19 cases (April 12-24) as a function of daily 1st dose vaccinations (April 8-20). For each datapoint, the dates of new case numbers from the y axis, followed by vaccination dates from the x-axis, are indicated.

Overall conclusions

Both data bodies (Tables 1 and 2 from the Ministry of Health and the data from Dagan et al in Figure 2) were initially presented as evidence favouring vaccination. However, straightforward analyses of these data highlight adverse effects. They confirm suspicions that vaccination fragilizes the immune system of the vaccinated, not only during the vaccination process, but even after full vaccination (in Table 1, the fully vaccinated die 15 times more than the unvaccinated). The raw data on which the Dagan et al publication from Clalit is based are unavailable. These data are required for transparent independent assessment of conclusions of a publication with such consequences. Current circumstances do not live up, even from far, to this basic standard requirement.

Before continuing the massive vaccination project, these adverse effects must be examined and carefully evaluated vs positive effects. The results on increased vaccination-induced infection rates (3-fold) and death rates (around 20 times the COVID-death rate of the unvaccinated) presented above are serious reasons to suspect that a balanced cost-benefit would not be in favour of vaccination for any risk group.

Considering only COVID19-associated increased risks during the 5-week vaccination period, vaccine-induced protection would need to be absolute, which it is not, and last much longer than the 12 months projected until the next vaccine injection is required. Including in calculations unavailable precise data on vaccine-induced increased risks unrelated to COVID19 will necessarily increase the vaccine protection period required to compensate for all vaccine-associated deaths, probably beyond 2.5 years. Our calculations for younger age groups predict an even more extreme and dire situation. It is long known that vaccination is not cost-effective against organisms or viruses with highly mutable genomes. RNA viruses, coronaviruses and HIV included, have the most mutable known genomes. Note that vaccine-associated risks increase proportionally to the strength of the immune system, predicting that vaccination will greatly increase the very low COVID19 risks experienced by the younger population. Extrapolations two independent available datasets confirm this prediction.

The precautionary principle is the first priority of those responsible for public health and its urgent application is required at this point, especially when the whole population of a country, including its

youth, is at stake. Re-evaluation of the project requires age- and vaccine-status-specific data for all individuals, including those who died and those who did not die. Such a classical and transparent cost-benefit analysis could prevent catastrophic consequences, especially considering that the data were collected and published by teams that are not absolutely independent of the company that produces and sells the vaccine. Vaccination-associated mortality risks are expected at least 20 times greater below age 20 compared to the very low COVID19-associated risks for this age group enjoying the healthiest immune system.

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Hervé Seligmann

Supplementary tables.

Table S1. Numbers and percentages of COVID19 cases for the age classes, data published by the health insurance company Clalit since the pandemic started Feb 2020 until March 22 2021.

From: https://www.clalit.co.il/he/your_health/family/Pages/corona_in_israel.aspx

מספר המתים מקורונה בחלוקה לקבוצות גיל
(לפי 6,109 מקרים)

קבוצת הגיל	מספר המתים	שיעור המתים
9-0	5	0.08%
19-10	4	0.07%
29-20	32	0.52%
39-30	45	0.74%
49-40	105	1.72%
59-50	321	5.25%
69-60	857	14.03%
79-70	1,535	25.13%
89-80	2,023	33.12%
+90	1,182	19.35%
סך הכול	**6,109**	**100%**

Table S2. Numbers and percentages of COVID19 deaths for the age classes, data published by the health insurance company Clalit since the pandemic started Feb 2020 until March 22 2021.

From: https://www.clalit.co.il/he/your_health/family/Pages/corona_in_israel.aspx