# Twitter Thread by Mohal Joshi



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## Thread:

## With US having vaccinated 9M+ and India starting it's vaccination plan soon (Jan 16th) some have started scaremongering about vaccines via alarmist WhatsApp forwards, FB/Twitter posts and other social media platforms

Most of the cases of severe reaction to vaccine have been mostly Anaphylaxis which is a severe, (in some cases potentially life-threatening allergic reaction) It can occur after exposure to allergen which can be peanut, shellfish, bee sting etc. or even contents of a vaccine.

CDC guidelines clearly state that patients should be monitored for anaphylaxis at vaccination sites and also prescribes protocols on what steps to take

https://t.co/8a4szVBBor

Recommendations include urging sites where vaccines are given to be ready to handle anaphylaxis cases, including by having epinephrine. People who have been vaccinated should stay to be monitored for 15 minutes if they have no history of allergy and 30 minutes if they do.

Based on initial vaccination data it is estimated that probability of suffering anaphylaxis is 11.1 per million i.e. 0.00111% (i.e. extremely rare condition)

Dr. Nancy Messonnier, head of the CDC's National Center for Immunization and Respiratory Diseases, said "Right now, the known and potential benefits of the current Covid-19 vaccines outweigh the known and potential risks of getting Covid-19."

Now let's compare this with the data for the fatality rate from COVID-19 itself.

In a research paper published in the scientific journal Nature, a team of scientists led by Megan O’Driscoll and Henrik Salje collected data on COVID-19 deaths in 45 countries and nearly two dozen seroprevalence studies.

https://t.co/RbuqZppPey

Using this data, they determined sex- and age-specific IFR (Infection Fatality Rate).

## COVID Infection-Fatality Rates by Sex and Age Group (Numbers are shown as percentages)

| *Age group* | Male | Female | Mean |
|---|---|---|---|
| *0-4* | 0.003 | 0.003 | 0.003 |
| *5-9* | 0.001 | 0.001 | 0.001 |
| *10-14* | 0.001 | 0.001 | 0.001 |
| *15-19* | 0.003 | 0.002 | 0.003 |
| *20-24* | 0.008 | 0.005 | 0.006 |
| *25-29* | 0.017 | 0.009 | 0.013 |
| *30-34* | 0.033 | 0.015 | 0.024 |
| *35-39* | 0.056 | 0.025 | 0.040 |
| *40-44* | 0.106 | 0.044 | 0.075 |
| *45-49* | 0.168 | 0.073 | 0.121 |
| *50-54* | 0.291 | 0.123 | 0.207 |
| *55-59* | 0.448 | 0.197 | 0.323 |
| *60-64* | 0.595 | 0.318 | 0.456 |
| *65-69* | 1.452 | 0.698 | 1.075 |
| *70-74* | 2.307 | 1.042 | 1.674 |
| *75-79* | 4.260 | 2.145 | 3.203 |
| *80+* | 10.825 | 5.759 | 8.292 |

Even when we compare the group with the lowest IFR who will get vaccinated right now (Note: vaccines are not still approved for use in kids) 20-24 group IFR at 0.006% is still ~5x higher than the anaphylaxis probability at 0.00111%

If you look at seniors (60-64 category) for e.g. their IFR at 0.456% is 410x the chances of an anaphylaxis event.

Putting aside COVID-19, If an elder was told that the probability of dying was 400 times higher than probability of having a severe reaction to a shot I am sure that most would chose the former over the later

Now every time you inject a foreign object into the human body, be it mRNA nanoparticle [Pfizer/Moderna], inactivated virus [Covaxin] or adenovirus-vector [AstraZaneca/CovidShield] via vaccination there is bound to be some reaction to it as the immune system reacts to it.

Some will have side effects which mostly go away after few days or instant intervention like epi -pen while a very very tiny sliver of vaccine recipients will unfortunately have much worse outcomes no doubt.

But once has to keep in mind the balance of the the risk associated with contracting severe COVID (which can cause long lasting damage to body including up to death) vs a reaction to the vaccine which is way rarer event.

As we go along in 2021 there will be constant bombardment of alarming news saying there was a case in country XYZ where following symptoms were observed which will cause panic.

But one has to remember that these are raw absolute numbers you are looking at and not percentages which matter more when vaccines are being administered to millions of folks around the world.

By the same logic as above if I say that there were x number of accidents on highway ABC it might appear to casual reader that highway ABC might be dangerous to travel on.

But when you look at % of accidents on that freeway vs overall traffic it will be very small %. There is always a non-zero probability of death when one drives a car but one does not consciously think of it all the time when they get on the highway in terms of raw accidents.

Everyone has to make a decision on their own on what their risk appetite is for contracting severe COVID vs adverse an reaction to vaccine. They can choose to take the vaccine or not but that decision should not be influenced by fearmongering clickbait type of media articles ■