"since often enough in the actions of life no delay is permissible,... we should follow the most probable"
- Rene Descartes, Discourse on Method

Prophylactics for Covid 19 – Known and Unknown

1. **The probable, based on scientific research and *safe* compounds should be suggested to population widely as prophylactic means for Covid 19.** We should **help people to increase their chances of protection against Covid 19 using safe compounds** even when they get the virus load.

- *Research shows that Coronoviruses need acidic environment for a cell fusion. For example, coronavirus infectious bronchitis virus (IBV) fusion with a cell is triggered by simple exposure to low pH.*
- *If we increase body pH to the higher value (obviously within regulated physiological range) we should reduce the chance for a virus fusion and its spreading within the body. Possible compounds could be used for this purpose and generally safe:* ***Sodium carbonate Na2CO3, Alkaline water, heart-burn drug famotidine.***
- *Research shows that some amino acids may prevent the virus formation by blocking the cell entry to amino-acids necessary for viruses. More specifically some research shows that amino-acid Arginine which is part of Covid 19 genome can be blocked by the amino-acid Lysine and thus at least should reduce the rate of Covid 19 development in the body.*

References:

- *On lysine: https://pubchem.ncbi.nlm.nih.gov/compound/Lysine*
- *On fusion of enveloped viruses and low pH: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4866878/*
- *Book about medical use of baking soda published in New York in 1933 - https://archive.lib.msu.edu/DMC/sliker/msuspcsbs_armh_armandhamm42/msuspcsbs_armh_armandhamm42.pdf*

2. The scientific research on prophylactic compounds should be done efficiently and as fast as possible.

- *Development of Coronovirus vaccine is an uncharted territory. In the past the efforts to create effective vaccine for other Coronoviruses had failed. If we fail with this time again what is our back up plan?* ***What would be a rate of infection if we start spreading a successful vaccine 1 year from now ?***
- *Pharmaceutical companies need to be helped by scientific community which researched virus development and spreading in animals and in humans as these companies don't have expertise in* ***preventive drugs development*** *but mostly have expertise in the drugs used for treatment of diseases which already started.* ***All*** *companies will lose if economies will go down due to long pandemic and so the goal should be* ***prevention of virus*** *and stopping pandemic...*

3. **We need to focus research on the reasons why children and many adults despite**

having Covid 19 virus don't get symptoms or have only mild ones and try to create similar physiological environment in entire population using safe drugs or supplements.

- *There is a research which confirm the blood pH decreases with age starting from the age of 17.*
- *Knowing that Coronoviruses usually needs a low acidic environment for cell fusion we can hypothesize that* ***children are likely protected by high pH*** *and check this hypothesis by controlling pH in experiments with adults.*
- *There is a some research in China and U S which shows that heart-burn drug* ***famotidine which increases pH*** *in the stomach significantly (about 14%) reduced the chances of dying from Covid 19. This also point to the conclusion* ***that pH can be decisive factor in virus spread inside the human body.***
- *Human body controls pH level in a strict range for a reason as many chemical properties of* ***proteins (including virus proteins) are changing in different pH*** *enthronements and* ***what possible in one pH environment for a virus may be not possible in another.*** *The change should not be significant in terms of pH*

References:

- On pH decrease with Age:
- *https://journals.physiology.org/doi/pdf/10.1152/ajprenal.1996.271.6.f1114*
- *Famotidine:*https://www.medrxiv.org/content/10.1101/2020.05.01.20086694v2.full.pdf

4. **Knowing the Covid 19 genome and structure we need to find at least probable reasons why it spreads so fast and try to block the mechanisms by which these factors increase the spread of the virus across the globe.**

- *Some research shows the Spike protein in Covid 19 virus became more compact and require less energy for fusion and less virus load needed for onset of infection. This could be a probable cause why virus became contagious.*
- *We need to research if we can* ***change the shape of Spike protein using silver nano-particles****, etc. as the proteins changing its shape change their chemical properties as well and virus may lose its spreading properties inside the body.*

References:

- *About using silver nano-particles:* https://pubmed.ncbi.nlm.nih.gov/23792543/

REFERENCE SUMMARY

1. *On lysine: https://pubchem.ncbi.nlm.nih.gov/compound/Lysine*
2. *pH decrease with Age: https://journals.physiology.org/doi/pdf/10.1152/ajprenal.1996.271.6.f1114*
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5. *About using silver nano-particles:* https://pubmed.ncbi.nlm.nih.gov/23792543/
6. *On Famotidine:*https://www.medrxiv.org/content/10.1101/2020.05.01.20086694v2.full.pdf