**Biophysical nature of corona virus, means of its stability and susceptibility**

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SARS-CoV-2 virus which was initially reported in Wuhan, China in 2019 and its outbreak led to a pandemic, is nothing but a variety of charged and neural molecules that have been assembled in a unique spatial distribution and arrangement in the virus and in water medium. The configuration of virus lipids, proteins and nucleic acids (RNA), in a rather polar medium of water made them able to possess functional conformation and play different roles in virus stability and integrity when exposed to different factors including; heat, irradiation, physicochemical conditions, surface charges and so on.

Here, the biophysical roles of various factors such as distribution and status of water in virus structure, atomic structure of the virus spike protein, its surface charges, hydrophobicity and dynamics as well as the effect of composition, surface charge and fluidity of the membrane lipids on the stability and susceptibility of the virus will be discussed. Accordingly, the possibility of biophysically targeting the stabilizing and functioning molecules of the virus, say by changes in the environment pH, ionic strength, temperature, chaotrope and Kosmotrope agents and so on, in order to disintegrate the virus structure and neutralize it is discussed. Taking the above approaches, one can expect to destabilize the virus structure so that by destructing the unique atomic structure of the Spike and RBD site virus fail to bind to ACE2 receptor and by neutralizing its surface charges its electrostatic attractions needed for invasion are weakening.

The biophysical approaches might be considered as complementary and/or substitute means to ongoing immunological and clinical approaches being carried out to tackle with the corona virus.

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