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Abstract: The mathematical exponential law model of the Covid-19 pandemic and the Disease Triangle model for its control and reoccurrence is presented. Zermelo Fraenkel set theory of life particle of Covid-19   is discussed along with rhetorical consideration of vaccination, treatment, and environmental impact of Covid-19. The mathematical exponential law model of the Covid-19 pandemic and the Disease Triangle model for its control and reoccurrence is presented. Zermelo Fraenkel set theory of life particle of Covid-19   is discussed along with rhetorical consideration of vaccination, treatment, and environmental impact of Covid-19.
Key words: Mathematical modeling, Covid-19, Disease Triangle, Set theory, Plasma therapy.

I   INTRODUCTION TO MATHEMATICAL MODELLING

Mathematical modeling is a mathematical relation that describes some real life situation, in which a real world problem is an equivalent mathematical problem. Mathematical modeling is the process of creating a Mathematical model, solving it and using it to understand the real life problem. The steps in modeling are: 1. Understanding the problem, 2. Formulating the Mathematical model, 3 Solving the problem, 4. Interpreting it in real –life situation and 5. Validating the model. Mathematical model can be constructed for social problems E.g. M.S.Z. Mohamed presented a Mathematical model to solve the vehicles lightening in Cairo, Egypt (1), or the biological problems e.g. I.S. Ike made a model for diffusion process in the human bloodstream (2). Mathematical modeling is also made for human population growth (3) and multi-objective linear   programming problems (4). Omale and Gochhait made an analytical solution to the mathematical models of HIV/AIDS with control in a heterogeneous population (5). Here, author made some mathematical models for pandemics and control of corona disease virus 2019.

Ii INTRODUCTION TO COVID-19

Full form of Covid-19 is Corona Virus disease 2019. It suggested to be a mutant variety   of SARS virus, so that it is also termed as SARS-CoV . Fig 1 represents structure of Covid19 . This Pathogen has specific host to cause the disease is physiological specialization .Covid-19' s spiny wall is poisonous protein, made by it's RNA. T'is top danger to handle. It attacks only human because, it's receptor protein of it's spiny wall can bind to human plasma membrane only, not to other animal's plasma membrane.

III EXPONAENTIAL LAW OF COVID-19

High sporadic characteristics of Covid-19 employs to an exponential law in which disease graph goes to sudden high from x axis to the Y axis in disease graph with time Ψ in x, N denotes to the number of infection in figure2. The table 1 represents the universal law of time (expansion of both universe and time follow the power set axiom of maths also called as extension law. Here pathogen is pandemic due to spreading of disease D into to the power set of time Ψ and contamination, C (rather than multiplication) Pandemics = D $^{\Psi C}$ so that the disease graph sudden rises up as shown in figure2. Axiom 7 (Axiom of the Power Set). is a construction axiom since *y* will have more members in it than did *x* if the number of members in *x* is finite. For any set *x* the set *y* consisting of all the subsets of *x* exists. The set of all subsets of *x* is called the 'power set' of *x*. Corona disease spread follows to mathematical law of exponential to be pandemic. Exponential law of disease spread is not multiplication but i.e. to the power . This follows the Times fourth law of Universe with the time line as named covid-19 .(Ref .6)
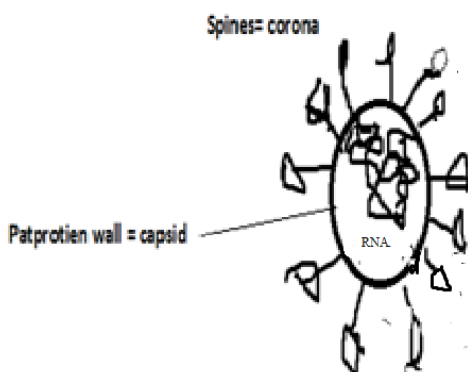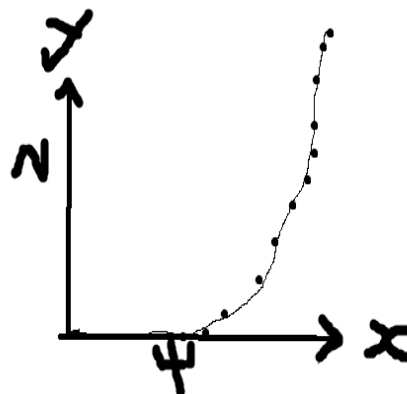

Fig1 Structure of corona   Fig 2 Pandemics of covid-19

4rth Time's	Law of universe	Homogeneity with space and energy . Time is continuous in continuum behaves equal for all in continuum .e.g. 7 a.m. for one individual at any place, just same for all . Power set property of universe is the expansion in it's periphery.	7th. Math's	**Axiom of the Power Set**	For any set *x* the set *y* consisting of all the subsets of *x* exists. The set of all subsets of *x* is called the 'power set' of *x*. Although *y* is defined by a property, namely that its members are subsets of *x*. Axiom 7 is another construction axiom since *y* will have more members in it than did *x* if the number of members in *x* is finite. E.g An exponential law in maths and pandemic covid-19.

Table1 Law of time in relation with the mathematical axiom (Ref.1)

Spread of covid ←---

---→Cure from pandemic covid-19
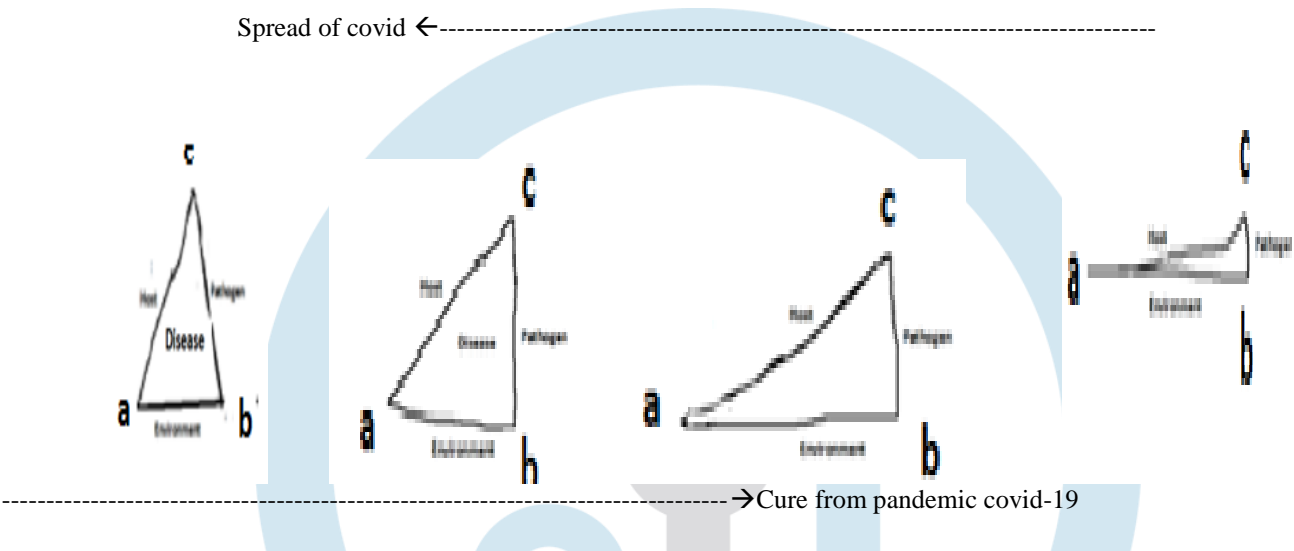
Figure 3 Triangle Model of Covid-19.

IV TRIGNOMETRY MODEL OF CORONA DISEASE

Triangle is a set of three elements. Stevense (1960) proposed disease triangle i.e. Host, pathogen and environment. Biologist Leonard J Francle   (2001) described types of disease triangle as per the relation of pathogen host and environment.(7, 8) Mathematician Barry D. G. Gumm described mathematically correct Wave triangulation rhythm model (9) Fig 3 represent the stage of corona spread and only host(Human) remain an straight line be a complete irradiation of Covid-19.

Figure3 represents that in disease △abc , the base ab is environment, and one side bc is pathogen (Covid-19) and another side ac is host (men). For pandemics, environment, pathogen and host , three all would be abundantly and equally responsible, therefore, the disease △abc would be equilateral △, but in condition of control of covid 19, the man's line would increase and △ would be right triangle , *i.e.* angle abc would be 90^0, further pathogen line bc would decrease and host line would increase and further man's line would be parallel to the environment to be total control of disease. Therefore, the successive change of disease triangle from left to right would be control of covid 19 . ***Vice-versa,*** if the disease triangles structure changes from right to left , it would be spread of disease to be pandemic. Since the pathogen covid 19's line would increase and host (men's) line would decrease to spread of disease. As represented in figure 3. The change of disease △abc both side would be disease wave or reoccurrence of the disease. Disease triangles abc changes from right to left for pandemics could only be equilateral △, since in, most cases it is being treated . but if equilateral disease triangle would go further decrease host (men) line and if further changes to the left side, the inhalation would be occur. . But it would not so , since Sciences will cure to men.

V   ANTI TRIANGLE MODEL OF CORONA CONTROL

Triangle is Scientific Symbol of energy. In pathology there is disease triangle (i.e. host , pathogen and environment). Here corona triangle is Trigonometry of disease:

1 Covid19
2 Spreader human.
3 Susceptibility

Angles abc of triangle equalize in hi sporadic . The angles -x, -y, -z of triangle a, b, c. differ in various stages of situation n vaccination applied and lastly triangle destroys to be spherical O, at completely controlled point like polio ended. Vaccination can be negation   -x, -y and -z axis's to control C ® work W.Trigonometry of pathogens is destruction =O = C.

-(--) + (+)=00. Here control of disease is the object= normal to zero. No pathogen. Anti triangle to corona control can be considered to be,-

-x = Eradication ,

--y = Strict isolation and
–z = Vaccination (Immunity)

Mathematician Barry Gumm discussed mathematically correct wave triangulation rhythm model" (9) .A dance of pathogenic triangle iz wave string of corona disease. And to C control is danced to destruction of $\triangle$abc. to be zero or spherical. So that not pathogenesis=C, control. Hence theoretical triangle model of Corona therapy is as represented in figure 4:- In the disease $\triangle$abc, an anti $\triangle$ –x-y-z is imposed. Both triangles get intermingled and it become a **hexagon** . If The $\triangle$ abc is more powerful to $\triangle$ – x-y-z , $\triangle$abc would make homology to $\triangle$ –x-y-z , to be merged into $\triangle$abc. But in control of Covid-19, $\triangle$–x-y-z , would be more powerful than $\triangle$abc, Sothat the Hexagon would destroy it's angles successively and finally it will be destroyed to be spherical (O), Thus the corona disease would be controlled.

Fig 4. Triangle and anti triangle model of corona control =C=O.

VI ZERMELO FRAENKEL SET THEORY OF COVID-19

Adenosine tri phosphate (ATP), Deoxyribonuclic acid (DNA) and Nicotinamide adenine dinucliotide Hydrogen phosphate (NADH) are three basic molecules of Life Particle. All these three, are consist of five basic elements C,H,O,N and P of environment, respectively representing to earth, water, sky , air and fire as per their percent presence and nature in nature. Atdbio.com deals with molecular and structural formula and mass of biological particles (10). Molecular formula of ATP is $C_{10}H_{16}O_{13}N_5P_3$. DNA is made up of four bases ,Adenine , Guanine, Cytosine, and thymine, their molecular formula are: Adenine = $C_{10}H_{12}O_5N_5P$. Guanine = $C_{10}H_{12}O_6N_5P$, Cytosine= $C_9H_{12}O_6N_3P$, and Thymine = $C_{10}H_{13}O_7N_2P$. Molecular formula of NADH= $C_{21}H_{29}O_{17}N7P_3$. DNA and ATP energy remain in died body , Thus NADH may be suggested as Life Particle L_p. The molecular weight of s Lp weight = 744.413 g./mole (Dalton Unit).

In each a set of life there are three elements 1.ATP, (e) DNA (u) and NADP(Ψ) $\wedge$ An Universal Trident or triangle of triplet of Energy , Universe and Time. Let us consider a statement of Mathematician Zermelo Fraenkel (11) :

An 'element' of a set is a representation of a coalition in intensive magnitude. A set-theoretic point (*member* of a set) is something else entirely. It is a complete and singular composition employed as a unit in the process of aggregation. An element or a *member* 'belongs to' a set; an *element* does not denotes a rule of transformation from a 'domain set' (*A*) to another set. .

For example, the notation $f : A \rightarrow B$ or $f : A \rightarrow A$

In other words, this notation is a short hand for saying that *f* defines some subset of a Cartesian product and does not *directly* denote, for instance ,taking *A* immediately back into itself
(as the notation $f : A \rightarrow A$ merely seems to imply).
If we denote Life particle by L_p ATP=a , DNA=d and NADP by ' n'
$\Rightarrow L_p = \cup \{ a, d., n \}$
$L_p = \{ C, H, O,N,P \} \cap a \cap d \cap n$
$\therefore$ Universe $U = \infty \Leftrightarrow$ Time $\Psi = \infty \Leftrightarrow$ Energy $E = \infty$
$\because \infty = \forall \{U, \Psi, E \} \wedge \{DNA, NADP, ATP\} \cap \{C, H, O, N, P \}$
$:= \wedge \gg \gg$ {volume, life time $\Psi\varepsilon$, life energy}

VII CRONOBIOLOGY OF COVID-19

The study of time with life particle is chronobiology. The term Covid-19 indicates to **Time line** of corona Pathogen Mathematicians have philosophy of universal law i.e. 0 to 09 = 10 Axioms as an Universal truth .To simplify I studied 01 to 10 and made relation with the ten law of time. Mathematical definition of line $L = \Sigma \infty p$ ….. $\rightarrow$ in a series, i. e. Line = Sigma infinite points in a series (Points = Particle) Corpuscular mathematical assumption in linear dimension of time: Time is infinite Ψ_∞ , from infinite future Ψ_f to Infinite past Ψ_p is consist of infinite time particles $\Psi_\infty \prod$. *i.e.*
$\Psi_\infty = \Psi_f \rightarrow \Psi_p = \Psi_\infty \prod$ (infinite famito seconds or infinite atto seconds, second and minutes)
$\Psi_\infty \prod$ = Time Particle is an assumption like energy particles such as photon , thermion, magnetron higgs boson ,positron etc. These are positive energy in the cosmos .

Covid-19 is a Life Particle of minus energy It's Ψ_d =disease time is from it's infection time Ψ_{in} to the control time Ψ_0 is development of corona virus disease from it's natality N to mortality M.
Ψ_d =disease time = $\Psi_{in} \rightarrow N \rightarrow M \rightarrow \Psi_0$
$\Psi_d = \Psi_{in}$ -- $\Psi_0 = \Psi_\pi$
(Here Ψ_0=cured healthy relieved time and Ψ_π = health.

VIII PHYSIOLOGICAL SPECIALIZATION OF COVID-19

Pathogen has specific host to cause the disease is physiological specialization .Covid-19' s spiny wall is poisonous protein, made by it's RNA. It is top danger to handle. It attacks only human because, its receptor protein of it's spiny wall can bind to human plasma membrane only, not to other animal's plasma membrane.

IX TREATMENT AND VACCNATION OF COVID-19

Pathological Laboratory must be sophisticated, air-tight, well equipped with biotechnology tools.

A. PLASMA THERAPY AND MONOCLONAL ANTIBODY PRODUCTION

IT IS VERY SAFE TREATMENED AND RECOMMENDED. All over globe , it is being applied and   treatment is quite successful and literature is abundantly available.Steps of plasma therapy are-

1. The patients, who are sure corona diseased and after a long treatment got sure recovered to be good and healthy.
2. Put out their blood and extract blood serum by coagulation method .
3. Then put out antibody and antigen from serum. Multiply it by the monoclonal antibody production method given by Noble laureate, Paul Enrich (Ref-3)
4. Now the medicine is ready inject it into a patient for treatment.
5. Put half-half unit blood of each recovered healthy patients, but should high multiply by cloning for large scale treatment.

B. GENETIC ENGINEERING OF COVID-19 TO MAKE ANTIGEN TO DISTROY IT'S RNA

Noble Laurent, Paul Berg (1980), is known as father of genetic engineering. He is an American biochemist and professor emeritus at Stanford University. In this method RNA of pathogen is analysed to make it's gene sequence. and it's resistant gene is discovered to insert into host by recombinant RNA technology. IT IS VERY DANJEROUS EXPERIMENT AND NOT PERMITTED. (13)

X ENVIRONMENTAL IMPACT OF COVID-19

1. All sophisticated laboratories permitted for pathogenic microbiology are busy for making vaccines and tests in animals then to human and however, it can be controlled.
2. Common man too got understood to contamination of pathogen and preventions like emasculation, isolation, and sanitization. Common man specially worker groups were most effected during lock down in starvation, pedal march long distance to return home villages and hot summer.
3. Rich men were worry depression in isolation and loss of business. Biology don't differ social and many lax people died , with a loss of millions Euro property from all over globe.
4. Human   to   nature,   all   are   effected   it's   both   positive   and   negative   effects. Gross hopper problem in agriculture is a side effect of Covid-19. Since during lock down it,s management could not be done .
5. Of course, Covid-19 being pandemic pathogen, minus effects are much more from life hazards to industrial loss during lock downs phases one to four.
6. New fields of research during long lock down worldwide started. It is said that gaseous atm.   purification   happen along with natural water rivers and lakes cleanliness.

Change of Life style:

1. Isolation, Emasculation, Sympathy like properties came in Human behaviour.
2. It is seen to be men creative, like painting, music, indoor exercise.
3. Working from home, distance education and Seminars changed into webinars.
4. Class room teaching changes to remote teaching technology. *E. g*. 1. group call.2 watsap group.3. U tubes making n providing of lecture videos.4 Google e class.5 g. Meeting. Video conference etc.
5. Long isolation causes depression, home violence, anexity etc. Also social workers started a new service to save society from these problems.

XI DISCISSION

Covid-19 is very recently global pandemic pathogen. Suggested to be spread from bats market. We are beginning of biology, pathogenesis, genetic engineering and vaccination of covod-19. Human to nature , all are effected it's both positive and negative effects. All sophisticated laboratories permitted for pathogenic microbiology are busy for making vaccines and tests in animals then to human and however, it can be controlled. But common man too got understood to contamination of pathogen and preventions like emasculation, isolation, and sanitization. Common man especially worker groups were most effected during lock down in starvation, pedal march long distance to return home villages and hot summer. And rich men were worry depression in isolation and loss of business. But biology don't differ social and many lax people died , with a loss of millions Euro property from all over globe.

XII RECOMMENDATION :

Save the Nature for future, Life particles take revenge. Covid-19 is also a structure of life particle, only men injurious nature from both sides equilibrium. Nature only threats by humen. Temperature must kill pathogen. But it failed prediction. Since the microbes are more registrant than men. Rain can increase spread. As a botany student we may suggest, to eat boiled trapa nut, ash ripened sugar beet, germinated seeds, and dry grapes. Indeed very sweet and good to boost immunity.

XIII CONCLUSION

Corona virus disease -2019 is a very sporadic disease causing respiratory problems. It's pandemics could be understood by

mathematical exponential law under maths axiom of power set and it's pandemics and control both can be mathematically described by disease triangle models**.**

IVX   ACKNOWLEDGEMENT

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