Editorial

History of Quarantine – Past, Present and Future. Are we in Same Platform ?

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‘‘সেই ট্রাডিসন সমানে চলছে’’

[The same tradition continues uninterrupted ; nowhere has it changed]
— *Bharatbarsa by S wajed Ali*

History of the world has been intertwined with the impact of infectious disease over its population. Evidence of smallpox has been found in 3000 years old Egyptian Mummy. Hippocrates had clearly written that diseases spread by "air, fomite, and places". Centuries after centuries, infectious diseases have influenced political, social and economic balance of many countries. Plague of Athens changed power equation between Athens and Sparta, ending the golden age of Athenian predominance. Alexander the Great defeated Puru, the great Indian Warrior but was helplessly defeated at the age of 33 by tropical fever. During age of exploration Europeans invaded different continents like Asia, Africa, Latin America and brought vectors and organisms to non-endemic parts of world. Thus infectious disease became a global problem.

But before discovery of the Germ Theory, advent of antimicrobials and vaccination, there was no definite way to defend against infectious disease. From ancient times, people practiced isolation of infected person from community and separating susceptible community from infected person. This practice was termed as Isolation and Quarantine respectively. In absence of definite medicine these methods were adopted as powerful tools centuries after century to reduce rapid spread of infection.

Evidence of isolation found in ancient literature.

An early mention of isolation occurs in *Biblical book of Leviticus* written in 700 BCE. The

Islamic prophet Muhammad also advised quarantine: "*those with contagious disease should be kept away from those who are healthy".* In Hindu literature, isolation of 21days had been advised to get rid of diseases.

একোবিংশতি রাত্রেন বিষৎ স্যাম্যতী সর্বথা।

*(Twenty one days isolation can remove poison from your body – Astanga Hriday Grantha, 65 no shloka.)*Although the number "21" is not based on scientific evidence, still the spirit of this advice remains valid even today.

Isolation & Quarantine in Medieval Period :

Though practice similar to isolation and quarantine were practiced from even before the birth of Christ, but 1377 AD. is considered as a watershed zone in Medieval history. In 1377, great council of Ragusa (modern Croatia) first enacted the law of isolation, which was enforced by State. Initially it was for 30 days for anybody trying to enter city. In 1423 this method was adopted by Venice – quarantine of merchant ships (presuming sailors are carrying infectious disease from different country or continent). Gradually whole Europe adopted this practice. Then it was enhanced to 40 days – name adopted as Quarentina from Latin Quadraginta –referring to 40. Italy applied quarantine in the fifteenth century. Basically it was initially applied to ships coming from abroad to make sailors infection free before entering to country. A more detailed description of human response to pandemics can be found in the medical history section of this issue.

To utter surprise, Great Britain was reluctant to follow this practice in spite of repeated outbreaks. Ultimately after 200 years, in 1665, during the "Great Plague of London"- Britain ruthlessly enforced this law. From 16th to 18th Century, France adopted isolation of people coming in Ships from abroad. Subsequently US Supreme Court affirmed power to state to enact quarantine.

Quarantine in Nineteeth Century :

Quarantine was challenged in early nineteenth century by reformers as an outdated practice. Europe was in stage of renaissance and in dream of Industrial revolution. Germ theory was not established by that time. Reformers viewed that

quarantine would be infringement of their personal freedom and contemporary economist and industrialists opined that commerce would be heavily affected by this century old practice. In 1830 when Cholera epidemic reached England, British government again switched over to Old practice, having no curative Medicine. Quickly it became unpopular. LANCET (1832): in one article called Cholera as "humbug got up for the destruction of Commerce". Riot flared up in Liverpool in 1832 against quarantine. Debate continued between quarantine, economy, public health and personal liberty. Fortunately in mid –nineteenth century Germ Theory was established by Louis Pasteur and nature of disease and itsspread was defined and so again need of quarantine was warranted.

In 1851, in response to repeated epidemics, France held the first **International Sanitary Conference** at Paris to make a uniform practice guideline for containment of infection. But in spite of several meetings, Europe failed to formulate a consensus policy due to different economic and political agendas of European countries who were in race for colonization. Great Britain was a big blocker of quarantine policy in that time. Finally in 1893 (after Cholera pandemic in Europe in 1892) a ratified convention with act for compulsory notification was achieved. In the same year, US Congress also passed National Quarantine Act.

Quarantine in Twentieth Century :

But history repeats itself. In 1911, Encyclopedia Britannica defined quarantine – "thing of past in UK and in majority of our states". In 1914, Europe engaged in World War 1 and Spanish Flu struck the whole world. Again Europe adopted the so called redundant policy - quarantine, Lockdown and isolation. The World committed several mistakes during the Spanish flu. In war torn countries, media was censored (except in Spain). So, the actual extent of the epidemic was unknown to the public. Lack of awareness and transparency made it difficult to control disease and unregulated mixing particularly among soldiers took more lives than the preceding war. After first wave of Flu, lockdown was quickly withdrawn due to several reasons – to celebrate victory in war, re-establishment of economic activities and so on; as a result second wave came heavily with more mortality.

After 2nd world war, two remarkable milestones were: **establishment of WHO in 1948 and CDC in 1967.**

Quarantine in Twenty First Century :

At the beginning of 21st Century, there were outbreak of SARS, Ebola, avian influenza etc. and Health officials had to use the old preventive processes — Isolation and quarantine. With time, there have been remarkable advancement in Medical Sciences; but mankind is helpless before infectious disease. Still the World is grasping old

practice when there is sudden outbreak. So in 2003 CDC declared "**Quarantine is medically very effective in protecting public health from diseases".** But due to advent of knowledge of incubation period and pathogenesis, scientists can now clearly define the duration of quarantine, that differs from disease to disease . This has been widely applied in COVID-19 pandemic. **This is probably the largest quarantine and isolation in the history of Medical sciences**.

In spite of usefulness and indispensability even in 21st century, Quarantine is never without controversy. Controversy lies in its application. There are several examples of either ruthless application or liberal application. There are several examples, where quarantine or lockdown has not given desired benefit. Quarantine is often weighed against politics, economic, ethics, freedom, fundamental rights or emotions. Lack of balance had put the process under question in past. When applied ruthlessly as in Cholera epidemic in Jessore 1818, it ignored basic fundamental rights. When applied keeping emotions, freedom as priority, as in Spanish Flu, it invited surge of infections. Rulers either ignored economic priority of individual or given high priority on trade economy of their country.

Quarantine & Society in Colonial India:

Quarantine, isolation, lockdown is never accepted from heart by mass in british India. It was considered as imprisonment.

' وَتِل μ نڑإ'ٴسءے'ارمى/و' .ٻالسى'ٴس/ا'منرځ'

[Plague was dangerous, but quarantine was more dangerous : Rajendra Singh Bedi].

Famous Bengali Writter Saratchandra Chattopadhyay expressed feeling of quarantine in his famous book Srikanta:

ডাক্তারবাবু আমাকে তাহার ঘরের মধ্যে ডাকিয়া লইয়া বলিলেন, শ্রীকান্তবাবু একখানা চিঠি যোগাড় না করে আপনার আসা উচিত ছিল না। Quarantine - এ নিয়ে যেতে এরা মানুষকে এত কষ্ট দেয় যে কসাই- খানায় গরু-ছাগল-ভেড়াকেও এত কষ্ট সইতে হয় না। তবে ছোটলোকেরা কোন রকমে সইতে পারে, শুধু ভদ্রলোকেদেরই মর্মান্তিক ব্যাপার।

[Doctor called me to the corner and said- Mr. Shrikanta, you shouldn't have come without the letter. Taking people to the quarantine, they inflict pain more than that suffered by the cattle in the slaughter-house. Although, the poor may endure such pain, the rest succumb to such pain.]

For successful quarantine, State has to impose restriction, which may raise many questions on fundamental rights. Bombay faced Plague epidemic in 1897

and British Government enforced Epidemic act 1897. But this act beyond criticism. Implementation of act was discriminatory and disrespectful, ignoring emotion and rights of people. Adequate food, shelter, treatment were not ensured and all people put in same shelter without considering caste, gender, religion, (which was relevant at that time in India; the Hindu upper castes did not want to stay in the same tent with untouchables). Eminent British historian David Arnold in his book *Colonizing the body: state medicine and epidemic disease in nineteenth century India* - **epidemic act 1897 was a product of the colonizing effort of IMS officials**, which give them a forehead in exercising their whims. Natasha Sarkar, Indian historian has written in *Journal of Indian History Congress, 2001* – British health committee invited criticism on quarantine policy. No notice was issued in advance. This caused great inconvenience to ordinary people, more to migrant labour. Mass resentment started in Bombay, Delhi and Kolkata. People started refusing quarantine. Riot started in Bombay. A British official was assassinated in Pune by Chapekar brothers.

So our question to the Public health experts, Where is the mistake? Where is the conflict?

Indian Response to COVID-19 :

In 2019 November, there was outbreak of Coronavirus infection in Wuhan province of China. Gradually it spread to almost all countries and in all continents. WHO declared this pandemic as a Health Emergency.

Due to lack of specific therapy, sudden surge of infection and growing international travel WHO embraced 600 years old traditional practices – isolation, quarantine and lockdown.

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India's response to pandemic was to some extent a make-shift arrangement. Most of the States were not prepared to gear up to combat pandemic. Our healthcare system had redirected resources – hospital beds, equipment, human resources from Non-Covid management to Covid management. As a result there is crisis in Non Covid area. So Government should build up separate infrastructure for quarantine, Isolation, ward and CCU for future epidemic or pandemic. Again, this time Government has utilized lot of Private infrastructure. But we should remember that the Public health issue is to be dealt by Public Health care system, not by Profit driven Private health Care system. Private health care system may not have same commitment as Public Sector. Only help on technological issues can be utilized.

Perception in Modern India :

There are several reports in last few months regarding refusal of quarantine, isolation, flee from hospitals, attack on health care workers (HCW) (Indore and Chennai) and police, denying entry of HCWs in residential places (Kolkata and Delhi) and so on. These are out of fear, stigma, distance from family for prolonged period, loss of wages and loss of trust in public health care system. We committed the same mistakes as in the past. We imposed measures without taking people in confidence. Stigmatization, fear was integral part of contagious disease in the past. Poet John Donne suffered from severe infection in 1623. He immediately found himself aloneeven doctors deserted him. He wrote "as sickness is the greatest misery, so the greatest misery of sickness is solitude ". Rabindranath Tagore in his poem *Puratan Bhritya* expressed loneliness after contagious infections like smllpox.

কোথা ব্রজবালা ! কোথা বনমালা ! কোথা বনমালী হরি
কোথা হা হন্ত, চিরবসন্ত ! আমি বসন্তে মরি।
বন্ধু যে যত স্বপ্নের মতো বাসা ছেড়ে দিল ভঙ্গ -
আমি একা ঘরে ব্যাধি-খরশরে ভরিল সকল অঙ্গ ।

[Where, alas, the damsels of Vraja, where the fabled woods, where was Hari
—The Gardener? Springtime? Accursed luck, dreaded smallpox, lethal and scary
Found me. One by one, every last room mate vacated the quarters of our dream
While, forlorn in my room lay I, even as pox lesions swamped my every limb.]

But in era of Internet, satellite, when we are moving towards the moon, **frequent reports of resistance faced by HCWs in entering their own houses is definitely a red-flag sign**.

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— even after 400 years.

Widespread fear of disease, mistrust on authority, wrong popular belief (doctors killed patients for anatomical dissection) during cholera epidemic led to cholera riot in 1832 in Liverpool. Same mistrust was observed in the Bombay plague in 1898; people thought plague was a conspiracy of British government to kill natives, particularly the downtrodden, who were pushed to unhygienic, poor quality shelters as a method of quarantine. After 125 years, still people have a belief that the Corona pandemic may be a conspiracy of China Government to restore supremacy over world. Mass hysteria, panic, what we see today, is

nothing new in pandemic. What happened in Indore (attack of Health Care workers) or Kolkata (Nurses denied entry in their housing complex) is nothing new, but the legacy of previous centuries. Only time changed, we have not changed much in our attitude or practice. For example, during the plague epidemic of Calcutta in the last decade of the Nineteenth century, people also had a lot of misunderstandings. Premankur Atorthi, in his book, "Mohasthobir Jatok" has given some descriptions of the public perception in that era:

কিন্তু টীকে সম্বন্ধে সাধারনের মধ্যে এমন সব সাংঘাতিক গুজব লাগল যে, এ যুগের লোকটা শুনলে হেসেই ফেলবে।
কেউ বললে, টীকে নেবার দশ ঘন্টার মধ্যেই মানুষ কাবার হয়ে যায়।
কেউ বললে, পেট থেকে এক পয়সা মাপের মাংসের বড়া তুলে নিয়ে তার ভেতরে প্লেগের বীজ পুরে দেওয়া হয়।
প্লেগের হাসপাতাল তৈরী হল আবার মেছোবাজারের মার্কাস স্কোয়ারে। সোনায় সোহাগা হল...... আর একটা দাঙ্গা বাঁধে আর কী !

[In the midst of the general public, such deadly rumors began to circulate regarding vaccines that people of this age would consider it a joke.
Some said, within ten hours of the day, people would go to the grave.
Others said, taking a penny sized piece of flesh from the stomach, seeds of plague were inserted.
The Plague Hospital was established in Mark's Square of Mechhobazar. This further incited a riot.]

We can compare this attitude to the various rumours and public resistance faced by the administration during setting up of Covid hospitals in different places.

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Another unheard aspect is voice of migrant labourers centuries after centuries. If we cannot ensure their food, shelter more people will die of hunger rather than disease itself. Jobless, derouted people will increase social inequalities. In Mumbai Plague epidemic, sudden notice of Lockdown in 1898 made life of migrant laborers miserable. In the present pandemic, these people walked miles after mile to reach home. In spite of several schemes taken by both Central and State Government of India, the images of these people walking, walking & walking their hunger, clash with police for food, death on way tarnished the Nation's shining Face. Great Poet Gulzar in his poem depicted

"महामारी लगी थी
घरों को भाग लिए थे सभी मज़दूर, कारीगर।
मशीनें बंद होने लग गईं थीं शहर की सारी
उन्हीं से हाथ पाओं चलते रहते थे
वर्ना ज़िन्दगी तो गाँव ही में बो के आए थे..."

— *Gulzar*

[There was a great pandemic
All the workers, craftsmen, ran off to their homes.
All the machines were shutting down in the city
This is what helped in the keeping the hands and legs working
Otherwise life was blissful in village only]

Controversy & Futuristic Approach :

Protecting health of community, combating fear psychosis and discrimination during epidemic period is really complex. This needs Planned programming on Health and behavioural education much before next outbreak of infectious disease. Dr Giridhari Babu, famous epidemiologist said "faith in the public health system cannot emerge immediately as a response to the pandemic".

In Post-Independence era, Government of India has definitely taken several measures on Preventive health. With different Disease Control Programs, life expectancy have increased dramatically. But after the 90s GOVT policy moved more to Hospital based curative treatment, stress on Non communicable diseases and boosting of private and insurance based health Care System. As a result, public health care system, particularly preventive care was neglected. This weakness was revealed during Nipah virus outbreak (Kerala), Dengue outbreak and recent JE outbreak . Government of India's prompt enforcement of lockdown was praised by WHO as "Tough and timely" but this has thrown several questions – particularly food insecurities of migrant labours. Also quarantine or containment provoked danger of stigmatization. Rumors in social media, fear, lack of political will, politicization of health issues, violence against health care workers, and transmission among health care workers made this challenge even more difficult.

After Pandemic or Epidemic immediate challenge is to keep infection at a manageable level, ensure maximum tests and tracing of contacts, isolate patients, treat as per protocol and timely dissemination of proper information. Food securities for the poor and vulnerable section and prevention of Economic fallout, along with international commitment should be the key arena for Government of India. All efforts will go in vain if we cannot create vibrant, enlightened, committed health care workers – including Doctors, Nurses, Paramedical staffs , public Health

administrator a dedicated Public health Specialist with good remuneration (**including insurance for death or disability**), satisfaction and pride in profession. Separate Fund allocation on Public heath, building of infrastructure and Human resources should be a priority. There should be strong surveillance system that can exactly detect or predict outbreak. India has Integrated Disease Surveillance system (IDSP), but needs stronger commitment with legislation to meet any challenge. To reach the goal, the country needs upgraded Laboratory i.e. apex laboratory like National institute of Virology and also state laboratories. **Updated Epidemic act should give doctors enough power even above bureaucracy to achieve clinical significance rather than statistical significance.** Lack of transparency, rumors in public (today at social media), unbalanced media reporting hinder epidemic control in times of crisis. In words of famous cardiologist Prof. G S Wander "we seem to have lost balance on the emotional to rational scale".

We should not repeat mistakes of the past and should be prepared with better epidemic act that will incorporate human emotions, participation, preserved fundamental rights.

"Pandemic provided us with a break from the past and enables the possibility for us to imagine an entirely new world"

— *Arundhati Roy*

Except technological improvement, psychologically and culturally we are in almost same platform as we were in last few pandemics in the past 200 years. **We should make a trust based Public health system and new Pandemic act that include People's sentiment , involvement and confidence suitable for an Independent, democratic country which will not repeat the mistakes of colonial period**. So in my opinion, this pandemic has given us a wake-up call for a long walk to build a stronger and trust-based healthcare system in India.

"He gives his harness bells a shake
To ask if there is some mistake.........
And miles to go before I sleep
And miles to go before I sleep"

— *Robert Frost*

I AM CONFIDENT
WE WILL BUILD STRONG, DEMOCRATIC, HEALTHY INDIA

♦ **JAI HIND**   ♦ **JAI BHARAT**   ♦ **BANDEMATARAM**