CENTRE FOR JOINT WARFARE STUDIES

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BIO TERRORISM: A NON-TRADITIONAL THREAT

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Bio terrorism is a serious non traditional threat. Likelihood of such threats however, is remote as such viral infections will have to be synthesised in a secure lab conditions:-

Firstly, in bio scientific area, the terrorist is not likely to have the capability and expertise to synthesise the virus by himself or by his group.

Secondly, the bio terrorist will have to source the vial with virus from one such Lab which is bound to be under strict state protection hence, in happening of such event, a state's complicity is a logical presumption.Most law-abiding states will not engage in this type of bio research (creating new forms of infections) unless for mitigating / neutralising the known viral diseases which have occurred on their own.

Thirdly, possibility that disease has emerged on its own exists, and the terrorist with fidyan mind set on getting infected will try spreading it to the target groups by intermingling with them. His target group will be the clusters such places of worships, markets, hotels, resorts, congested residential areas, cruise ships etc. He however, may take care not to infect

the group / community whose support or sympathy he continues to seek in achieving his larger aim.

The first step in dealing with the virus out break is to accurately assess the extent of spread of infected persons. This would need test, detect and track and segregation of the vulnerable persons to check the further spread.

Finally, It is a war like situation, which require a crisis plan similar to war plans in the armed forces. The plan must be holistic in nature must cover all aspects and contingencies:-

(a) **Good Surveillance,** Practices and techniques to identify the threats (Individuals / groups) and extent of spread of the disease is essential. Apart from human intelligence technology must be used for quick results.

(b) **Medical Arsenal.** Stocks of anti-dotes of known viral diseases (since, the terrorist will not invent the disease but, procure vial of already known disease or infected with the already known diseases), adequacy of Infrastructure to house the patients, medical professionals and paramedical and nursing staff, and adequate safety equipment for them.

(c) **Treatment.** Our experience shows that the shortage of testing kits and personnel protection equipment has adverse effect in fighting the spread. Large scale testing of vulnerable groups/ localities will reduce the need of harsh measures like lockdowns which have social and economic effects.

(d) **Boosting Psyche of the Population for Sustained Fight.** Clear and transparent information to the public is needed for compliance of safety practices and increase their resilience to fight the disease. An authentic source of information mut be established by the government for transparent communication of instructions, dispel fake news, inform spread of the disease and actions taken by the government to control it. Control and accountability of the social media is important to avoid fake news.

(e) **Establish National Medical Response Team.** It is required to handle this threat at the Apex a level and lower down at State, District, Tehsil, Block and Village level with both way vertical channel of communication. The decisions taken must be complied with diligently. In a democracy, this is a difficult area to implement as people act as per their own conscience and perception of threat.

(f) **Compliance of Instructions**. This is vital for achieving a maximum effect of planned actions to combat disease. In a federal structure, the actions to fight the disease must be decided coordinated with the states for whole hearted compliance.

(g) **Social Harmony**. In a heterogenous society like India, Govt and it functionaries must encourage social harmony and all violations must be dealt surely and promptly to have voluntary support.

(h) **Use of Technology.** Since the physical means of administration will be interrupted, effort must be made to use technology to retain the normal working as far as possible. (China has used artificial intelligence to assess the and identify people with high body temperature necessary for testing people for corona virus).

(j) **Adequacy of Drugs.** Our drug industry is largely depended on Chinese raw materials for production of generic medicines. Relying on one source, increases limitations. Create own sources and/or diversify the sources so that drug production is not get affected.

(k) **Adequacy of Medical Professional.** (Proportion of Doctors and Nurses and Paramedical Staff for Hospitals Labs /per 1000 Population) In our country this ratio is extremely low and needs large lead time to build it. We also need to institute measures so that these medical professionals if desire could migrate outside India only after rendering compulsory X years' service in India.

(l) **Budgetary Support**. Present allocation for medical care is abysmally low in India. A larger budgetary share needs to allocated to raise the medical standards. Except for some medical institutes most govt support medical hospitals are in very bad state and generally approached by poor Indians. We need raise standard of all hospitals.

(m) **Create a Health Reserve System**. The long working hours will take toll on the health of the medical professional. Some of whom may themselves become victims. The fight against anyepidemic especially which is highly communicable is long and extended one. This calls for creating a reserve force such as in military with recently retired medical professionals to take on role whenever required, particularly during surge of the victims.

(n) **Transportation Plan**. To maintain the continuity of the supply chain needs and public movements, a transportation plan covering Air/ trains and vehicular movement is necessary. In the current crisis, thisarea has been given attention by maintaining the services of goods trainsto transport food grains and other cargos to needy states.

State and centre must maintain close liaison and monitor food stock. Vehicular traffic for maintaining supply of essential goods with in the urban and rural areas must bedrawn and implemented to avoid shortages. As for as possible large-scale movements of people should be avoided to avoid the community spread of the disease. Minimum passenger trains can be introduced in gradual manner after proper screening of passengers and sanitization of trains to cater for emergent situations in the households.

(o) **Informal Labour**. It is estimated that nearly 85 to 90% of the workforce in India is working in an un organisedsector. These workers, who are without any written contract, social security benefit and security of tenure, are most hurt in lockdowns which may become necessary to combat the spread of the disease. To reduce pain to this segment and to save the economy, the selective lock down should be considered.

There are three major challenges: identification of informal workers which is a herculean task, mobilisation of adequate funds to provide social security and residences to house them. Therefore, mobilisation of measures for residence, adequate food and wagesfor social security must be laid down. This time, it emerged as a challenge. In future crisis, plan must exist to avoid the fiasco of the current times by laying predeveloped plan with clear idea of work force in each area, identify accommodation needed and the food.

Most unemployed labour finds comfort with in his own home and hearth. This became evident on witnessing the mass migration of the labour from the urban centres to their homes. In the initial stages, the spread of the disease was mainly by the Indians coming from abroad and tourists. At that stage, community transmission of the disease had not commenced hence, the fear that that the spread of disease would extend to the villages was unfounded as spread was confined to the upper classonly. Therefore, allowing labourers to move to their homes would not have causedany adverse consequences. This would also have reduced pressure on the administration.

(p) **Agriculture sector**. This sector employs large informal manpower during the sowing and harvesting season. Their departure from jobs can have long-term impact on food security and on hassled farmers. Surety of jobs, Incentives, dissemination of accurate information of the disease, their housing and general well being if ensured, will encourage labourers to stay at their place of work.

(q) **Economic Activities.** These centre around the industry (manufacturing, reality, mining and infrastructure) and businesses. Railways, ports and airports are vital for supporting these. All these provide employment to the formal and informal labour.To avoid adverse aftereffects, we can introduce selective lockdowns of the affected hotspots and allow the screened labour to work after through sanitization of the premises. This eventually would result in less manpower losing their sources of income as well as the effort needed by the government to arrange their temporary stay and daily necessities.

Adequacy of Medical Professionals. As on Dec 2019, India has one doctor for every 921 people which is way ahead of the WHO suggested doctor population ratio of 1:1000. This number however includes Ayurveda, homeopathy and unani (AUH) practioners. If allopathy doctors alone are considered, the ratio drops to 1:1596. In contrast, the doctor to population ratio is particularly better in the west e.g. Australia, 3.374:1,000; Brazil, 1.852:1,000; China, 1.49:1,000; France, 3.227:1,000; Germany, 4.125:1,000; Russia, 3.306:1,000; USA, 2.554:1,000;

There are 7.63 lakh Ayurveda, unani and homeopath doctors in the country, and assuming that even 80% of themare practising, there are 6.1lakh AUH doctors who can be pooled in for building better doctor to population ratio.
Currently, India hosts a total of 479 medical colleges with an annual intake of 67,218 MBBS students. With in next 5 years, the system will add 4,70,526 MBBS doctors (from 2017) to a total of 14,93,385 by 2024. On the other hand, India's population has been projected as 1,447,560,463 by 2024. So, by 2024, the doctor–population ratio is expected to be around 1.03 per 1000 population. India thus will reach WHO standard of 1:1,000 doctor (only modern medicine)–population ratio.[1]

The fact however, is that we are unable to employ all doctors in the public sectors who find jobs in the private sector or migrate abroad. During the current crisis, the hospitals are unable to attend the other diseases where patients are advised to wait and even OPD services and surgeries wherever feasible have been suspended. This can change by building more government hospitals and employing more doctors in the public sector. Pooling in the civil hospital resource must also be kept in the plan to augment when the need arises.

Adequacy of Paramedical and Nursing staff in India. India is short of 1.94 million nurses, according to an India Spend analysis of data from the Indian Nursing Council (INC) and the World Health Organization (WHO). In

[1]https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6259525/

India, seats in nursing colleges are increasingly falling vacant and the annual supply of nurses is dwindling. This because of perceived lower status of the nurses furthermore, those who are qualifying are eagerly looking for better paid jobs in richer countries[2]. Therefore, remuneration of the nursing staff needs to be made attractive for retention of manpower.

Budgetary Support. Currently, India has one of the lowest spending on healthcare if compared with global data. The current spending of India remains 1.6% of the GDP while the government's own National Health Policy 2017 envisages increasing the health budget to 2.5%.[3]

In South East Asian countries, the health expenditure is average 4.8% of GDP. In European countries the health care expenditures averages about 8.8 percent of gross domestic product (GDP) annually. Healthcare spending in the U.S., however, was 16.9 percent of GDP in 2018 the highest among all.[4]

We probably can not match the west but, the expenditure towards health must gradually increase. In PM Modi's words "Jan haiJahanhai ".

Conclusion

Indian leadership have been proactive and decisive during the present crisis caused by coronavirus pandemic. A well worked out plan can offset many chaotic situations and help in tackling the pandemic whether originated naturally or were injected by a terror group. It will eliminate uncertain situations and lead to surety of actions with assessable results without any confusion and misgiving amongst the population.

[2]https://everylifecounts.ndtv.com/india-short-nearly-two-million-nurses-13129

[3]livemint.com/budget/expectations/healthcare-industry-expects-budget-to-boost-make-in-india-make-it-affordable-for-patients-11580483621494.html

[4]https://www.pgpf.org/blog/2019/07/how-does-the-us-healthcare-system-compare-to-other-countries