Editorial

Prof. (Dr.) Jyotirmoy Pal
MD, FRCP, FRCP, FICP, FACP, WHO Fellow, Hony. Editor, JIMA

"It is health that is real wealth and not pieces of gold and silver."
— Mahatma Gandhi

"Health is a state of complete physical, mental and social well-being in which disease and infirmity are absent ."

"Public Health is Science and Art of preventing disease, prolonging life, and improving quality of life through organized effort and informed choices of society, organization, public and private communities and individual".
— World Health Organization

Health depends on a complex interplay among an array of genetic, environmental, and lifestyle factors. As a result, public health has become multidisciplinary and built on expertise and skills from many areas including biology, environmental science, sociology, psychology, statistics, and communication. This makes it difficult for the government and general public to understand. Public health is an intervention to prevent disease. After a heart disease, there are curative measures such as angioplasty or CABG; so, benefits are more obvious. But Public health measures do not provide direct benefits–as it helps in preventing diseases. So public health is not only difficult in implementation but also is less rewarding. That is a real challenge to a state.

Public health strategy has evolved from prehistoric period. It has undergone changes from decade to decade according to culture, education, economy, religion, and dynasty. While in the medieval period, the attitude of the rulers determined direction of public health; in twentieth century, it was decorated with democratic hues.

Prehistoric Ages in Civilization :

Ten thousand years ago, human beings were hunters. The only challenge was to find enough food. They moved into small groups and gradually the concept of 'Community' had developed. In early periods, It was thought that the occurrence of diseases was because of the curse of nature. Different myths, superstition prevailed and they considered worship of natural forces as remedies of disease. Gradually mankind learned the cultivation of crops and the use of domestic animals. Also, people stayed in groups. So mankind acquired diseases transmitted from animals and also from themselves. As a by-product of cultivation there was an accumulation of waste materials which were a good substrate for the growth of insects. Centuries passed with these beliefs.

Early Civilization :

Evidence of diseases found in early civilizations like Mesopotamia, Egypt and India. In Egyptian Mommy there were shreds of evidence of tuberculosis, Leprosy, Chickenpox. In Egyptian Literature Papyrus 3000 BC, the concept of the Public health system had developed, but still, people believed more on supernatural forces.

Ancient Civilization – India :

We observed the early Indian approach of Public health system in Harappa, Mohenjo-daro(3500-1500 BC). In excavation, there was evidence of a drainage system, particularly covered drainage, wells, and baths. Ayurveda, the Indian system of Medicine has given the importance of purity and cleanliness. Charaka described the aim of Medicine as–prevention of disease and Combating diseases. In the Post-vedic period, Ayurveda continued but was dominated by Buddhist and Jain teaching where surgery suffered a setback. From the inscription of Great Ashoka, it is evident that institutional approach (hospital)was adopted in Maurya Period. Medical Teaching got a boost in Gupta period.

Ancient Civilization – Greek Roman Period :

It is the thought of Greek physician Hippocrates, who instituted the concept that diseases were not due to the curse of God, rather a product of the activity of mankind–an imbalance between man and environment. Environmental factors, diet, personal behaviour were key issues behind occurrence of diseases. So he opened the concept of preventing diseases. Romans inherited the pathway of Greeks regarding sewage disposal,

sanitary baths and Galen (130-205 AD) taught the environment was the key issue in occurrence of diseases. They made notification of disease that can harm public health mandatory during this period.

Dark age in Europe and Medieval period in India :

With the fall of the Just in ianempire, the dark age of Europe started. The concept of Greek Physician was halted for centuries due to religious factors. No new knowledge was added. The dominance of the Church, superstition, and religious factors were key regulators of the health care system. On the other hand, there was growth in different civilisations with gradual overcrowding of cities. All human factors made soil for development of endemic and periodic epidemics. European society failed to halt the recurrent Plague epidemic. Black Death in the 14th century pushed a non confident sentiment against the religious pivotal system. People started adopting new measures to prevent the spread of the epidemic. Italy was a successful model in formulating measures against epidemics. Similar practices like Isolation, quarantine started even before the birth of Christ to prevent the spread of diseases, but it was in 1377AD when The Great Council of Ragusa(modern Croatia) enacted the law of isolation. Gradually, the whole of Europe adopted the method.

Effect of French Renaissance (15th to 17th Century) :

French renaissance brought fresh air in the human thought process. Black death was so devastating that the faith on the church as the saviour of mankind no longer existed. This brought a sudden end of the dark ages in Europe and the scientific thought process beyond the superstitious mind dominated. Andreas Vesalius dissected the human body and William Harvey described the circulatory system. Understanding of Medical sciences and diagnosis had improved and these thoughts were seedlings of the modern health care system.

Girolamo Fracastoro (1546) – Italian biologist was a pioneer if bringing the idea of Germ Theory before formally articulated by Louis Pasteur. In his book "***Decontagione et contagiosismorbis***", he speculated that each disease was caused by a rapidly multiplying seeds and was transmitted by air, direct contact, food, and water.

John Graunt (1662) – French Clerks began recording deaths. He analysed data and made extensive observations regarding common causes of death, seasonal variation, sex variation, population size, and growth rate. This was first articulated epidemiological research on population.

John Pringle and jail Fever (1740) – The Scottish Physician was a physician general in Austrian War (1740-48). In his book "***Observations on the diseases of the army***", he mentioned several measures like ventilation, sanitation, drainage, latrine can improve the health of soldiers. He also had written that hygiene can prevent typhus or jail fever which is common among war prisoners. He first coined the term "Influenzae".

James Lind and Scurvy (1754) – It was a common problem of Sailors because of the chronic lack of fresh vegetables and fruits during long sea voyages. Scottish naval surgeon suspected that citrus fruit can prevent this disease based on some anecdotal observations. He conducted the first clinical case-control trial of the world on 12 sailors with scurvy. Based on his recommendation Lemon juice was rationed to each sailor.

Industrial Revolution (eighteenth to nineteenth Century) :

The industrial revolution in eighteenth-century brought an explosion of development. At the same time, it brought explosion of problems in Europe. There was explosion of population and migration. Laborers used to stay in congested rooms, poor ventilation, trauma from machinery, toxic exposures brought new health problems in Europe. Moreover, Europeans started colonizing other continents for trading. So, the disease from one continent started to spread to other continents. It was the beginning of the Pandemic.

The Enlightenment (1700-1850) :

This was a period of democracy, citizenship, reasoning, rationality, and scientific thought. Jeremy Bentham provided the underpinning of health policies. It was a reduction of mortality and improvement of health policy that had an impact on the economy. Healthy people can contribute more in the economy of the state.

Ignaz Semmelweis (1840) :

He was a Hungarian physician in charge of the Maternity department of Vienna General Hospital. He observed Postpartum Sepsis (Fever) in increased frequency which was fatal. There were two maternity wards in the hospital. One was attended by midwives and the other was attended by medical students. It was observed that in the hospital attended by Medical students' infection rates were high and usually, students used to come immediately after doing dissection. After some period one of the colleagues of

Dr Semmelweis cut his hand during dissection and developed similar symptoms. Ignaz began to wonder whether contagion could be carried by hand and be transferred to women during childbirth. He proposed hand washing before performing delivery and this simple attempt dramatically reduced infection and death rate.

John Snow – Father of Epidemiology (1813-58) :

The cholera epidemic started in Jessore, now in Bangladesh. Cholera spread to England and became a major health issue in 1830. The prevailing concept was it was caused by miasmas and person to person contact. Thousands of people died due to several outbreaks of Cholera epidemic in England and America. Snow observed all patients came with gastrointestinal problems, not with respiratory symptoms. So he proposed possibly organism entered into the body by Fecal-oral route, not by inhalation. In 1949 he published the paper "On the Mode of Communication of Cholera" but did not get much attention of the medical community. Not being frustrated he continued to gather data on the pattern of disease and tried to get a link between water sources and the occurrence of cholera. From Municipal data, he observed in particular two areas where water was supplied by a Private company pumped from a particular well had the most occurrence of Cholera. In 1953, Cholera had broken in Broad Street in London. John Snow identified a local hand pump from where victims had taken water, whereas other residents who had not taken water were relatively safe. He appeared in front of the Municipal Board and urged to remove the hand Pump. In spite of the initial resistance Board finally removed and the outbreak subsided. Snow continued his investigation. He came to know the first victim of cholera was a child. His mother had emptied the pail of the infant's stool into a cesspool to seep in. That was the point of contamination.

Louis Pasteur (1822 - 1895) :

Though John Snow's investigation established transmission of disease, but what caused disease was not revealed until the discovery of the Germ Theory by Louis Pasteur. He was a French Biologist and Chemist. He studied the fermentation of wine, beer, and milk, and proposed microorganisms was responsible for the occurrence of diseases. Pasteur was a pioneer in generating the idea that weakened organisms can be used as a vaccine and he successfully generated a vaccine against rabies.

Florence Nightingle (1820- 1910) :

Nightingale had learned from Belgian statistician L.A.J Quetelet that different medical treatments had negligible effects on outcomes; also that institutions, like a foundling hospital, with the most benevolent of intentions—saving infant lives—nonetheless had high mortality rates. Her own experience in the Crimean War, carefully written up afterward in 'Notes on Matters Affecting the Health, Efficiency and Hospital Administration of the British Army, 1858', showed appalling mortality rates from disease, despite the provision of a system of hospitals. She attributed these terrible death rates to underlying sanitary conditions—soldiers weakened by months of poor food and cold, and then subjected to badly overcrowded conditions when in hospital. The mortality rates did not go down until a visiting team of sanitary experts had the sewer system cleaned out and other engineering work undertaken.

Caution about unintended results led to Nightingale's insistence that new social programs start small. Get some experience first, she advised: see how the institution (hospital, program, ward, training school, prison, whatever) works before you are committed to large buildings, fixed programs, etc. Nightingale became a pioneer advocate of what would later be called "**evidence-based health care**," and did some of the pioneering work in data collection with "**uniform classification of disease**" so that comparisons in outcomes could be made.

Sanitary Idea (1850-75) :

In 1942 Sir Edwin Chadwick a social reformer published a report that life expectancy was much lower in urban areas than the countryside. He also pointed out that improper drainage system, polluted drinking water was the cause of ill health of the urban population and it had a direct impact on the economic health of the country. He brought the sanitary idea and resulted in remarkable improvement in the health condition of the city.

Legislation in Public Health in Nineteenth Century

Gradually State realized Health is a state subject and GOVT has to act to ensure his people otherwise there will be direct fallout of economy. So Europe, USA, and then different colonial countries passed different legislation and set up different boards and commission for further implementation of health policies. Such as "reporting of dangerous diseases to authority act", "immigration act", "Food inspection act", "recording of Birth, marriage and death act", set up of the sanitary commission, placing surgeon generals for controlling different endemic and epidemics were given a jolt in public health approach. But the approach of implementation of acts and motive was different

between ruler country and colonial countries. So initially there was huge resistance against these acts, and against the epidemic act in India 1897, riots flared up in Mumbai, Delhi, and Lahore.

Organized Research in Public Health :

With the establishment of different universities with a focus on public health, organized research also got a boost. In 1948 Richard Doll Bradford Hill conducted a study on the etiology of Lung Cancer. They identified smoking was the leading cause of Lung Cancer. This study not only identified Lung cancer as an important etiology but successfully made a landmark for **Case-control study** , which is considered until now as a pivot in epidemiology. Gradually Public health approach extended to Noncommunicable diseases also. In 1948 Framingham's study began with the goal of identifying factors that contribute to developing cardiovascular diseases.

Due to the advancement of Research, Medical education, Immunization, Sanitary systems there was a significant decline in mortality and morbidity in the mid-twentieth century. In 1959 Rene Dubos in his landmark book " **The Mirage of Health**" written that decline of mortality since 1850 was not primarily due to laboratory medicine, it was due to control of infectious diseases, improved sanitation, and nutrition.

History of Healthcare in ancient and medieval India :

Aryans brought with them, their own Gods, agrarian practices, and Vedas. These Vedas were believed to be the guiding principles of life and hence were riddled with Shlokas containing hymns and prayers for not just a healthy body but a healthy mind. Indians even had a God of healing known as Dhanvantari.

Ayurveda was the science of long life. Charaka, from King Kanishka's court, is known for writing down one of the earliest books on medicines sciences, the first detailed healthcare work in India which also described complicated surgical procedures. Charaka's efforts in establishing a healthcare system led to the development of two schools of healthcare i) Surgeons, and ii) Physicians.

With the rise of Buddha and his beliefs, invasive healthcare procedures were discouraged, as they were viewed as "himsa" on the body, which came in conflict with the Buddhist principle of "ahimsa". It is believed that Buddha himself tended to the sick. The focus during this period was on healing the inner energy/ soul/atman to heal the body.

In the more recent ancient history notes, it is believed that King Ashoka had developed the most comprehensive healthcare system under his reign. It is interesting to note that his reign extended from present-day, Afghanistan in the west to present day Bangladesh in the east. It is believed that King Ashoka established many hospitals in his empire; these became centers for healthcare and wellness.

With the advent of Muslim rulers, Ayurveda was pushed back as the Muslim rulers preferred their own Unani practitioners. King Akbar was one of the few rulers who saw the benefit in combining practices of both Ayurveda and Unani medicines to develop a better healthcare system.

The Indian healthcare system took a decline as the Mughal period took a downfall; the knowledge of the past was devoid of its scientific rigor and fraught with myths about diseases. It was at this time that the Church and its brand of medicines entered the Indian subcontinent.

Public Health in British India :

When Europeans came to India, they faced a challenge as India was having different endemic diseases in different parts of the country with episodes of the epidemic.

It is quite interesting to note that the first modern hospital in India was established by the Portuguese in 1510. It was known as the "Royal Hospital" however, the real revolution in healthcare practices was brought by the French and British colonists; especially, the British who built their first hospital in Madras in 1667, followed by more hospitals at their centres. These hospitals were initially created to provide better healthcare to British officers who were posted in India. They aimed to serve their own community preferentially and to prevent the spread of diseases from India to Europe with returning soldiers. To create more human resources from natives to meet demand they established medical colleges in several parts of the country – Calcutta Medical College -1835, Lahore Medical College -1860. However, from 1859, the British Crown took many steps in ensuring that healthcare was more inclusive. Observing a high rate of mortality among British soldiers Royal commission recommended sanitation in every presidency which took formation in 1864. Vaccination against smallpox started much before in British India -1802. Major epidemics in the nineteenth-century were Smallpox, Plague, Cholera, and Malaria. As a part of the International Trade route, there was immense pressure on the British Government to control emergencies. So, British Government passed the Epidemic Disease Act 1897 to implement necessary measures to control the epidemic. But Colonial power was used vigorously to

execute. Human emotion, sentiment, racial, religious issue relevant that time India was not taken into consideration. This gave birth to resentment and riots flared up in different parts of the country.

In the nineteenth-century British Government started the establishment of railways, construction works, irrigation works, without keeping in mind of sanitary and drainage works. This had lead to the flare-up of Malaria. Thanks to Dr Ronald Ross who discovered the life cycle of Malaria for which he got Nobel Prizes in 1902. This discovery gave a new horizon in eradication malaria with mosquito control. It should also be remembered, that healthcare provided to Indians was only to ensure their survival and health so that they can continue working for their British masters, which meant that bare minimum resources were spent on the second class citizens of the British Empire.

"In this unfortunate country we have never had public health services in the sense in which they are understood in the West. We have a few hospitals and dispensaries , hardly one for a taluka , considering the vastness of the population. We have no facilities for the curative and preventive side of disease. ..... No country in the world is medically so badly served as India because the Government never considered the health of the people as its first and foremost concern and its national wealth, as much as it considers law and order and the police and the military to be."

— JIMA , April , 1946

In spite of these, formation of Bhore Committee in 1943 was a major breakthrough in development of Public Health System which made back bone in Independent India.

Public Health in Independent India :

Along with its freedom, India inherited a crippling economy, booming population, and a deep healthcare crisis.

> The total deaths amongst children under 10 years, as a percentage of total deaths at all ages was 48·4 in 1937, about 200,000 women die every year from diseases and conditions associated with pregnancy and child bearing. The average number of deaths during 1932-41 from cholera was 144,924, from small pox 69,477, from plague 30,932—all preventable diseases. There are about 2·5 million tuberculosis patients in an infective stage in the country and there is only a total of 6,000 beds to provide facilities for their isolation .....
> ..... The average diet is ill-balanced, lacking in calories, salts, vitamins and protein. Famine and prefamine conditions are general.

Editorial, JIMA, August, 2020, P-10

Before India's independence, a 20 member committee was formed headed by Sir Joseph Bhore. The Bhore committee conducted the first-ever and probably the most extensive probe into the healthcare system of India then. The Bhore committee discovered that the availability of hospitals in India was 0.24 per 1000 population. The committee made several suggestions for improving the healthcare system in India, however, within a year of the submission of the said report, the British emperor, exited India forever.

The first Prime Minister of independent India Pandit Nehru realized the need for improved healthcare for the building of New India. Even before Independence in his report in 1928 public health was viewed as a constitutional right. It was the first draft constitution in Pre Independence period.

He did not forget to put health as an important determinant in democratic India and role was clearly mentioned in Constitution placed in Indian Parliament By Dr B R Ambedkar. Article 39(E) of the Indian Constitution contains an important provision related to public health: Article 47 places a duty on the state to raise the nutrition levels and standard of living of people of India, consider public health as a primary right for worker's health, women, and children.

Two five years plans, following independence, had allocated INR 770 crore to develop healthcare but not to avail. By the third the five-year plan, the then government decided to conduct another study on understanding the healthcare problem in India.

In 1959 Dr. Mudaliar Committee recommended strengthening of District Hospital and the formation of different Health Programme for the eradication of Malaria, Leprosy, Tuberculosis, Smallpox. Chaddha Committee was made to further strengthen the Malaria eradication Programme. In a significant move in 1966, a new committee was formed headed by Mr. B Mukherjee to review existing health programs. Mukherjee committee studied the Mudaliar and Bhore reports, along with the Healthcare Act of 1935, through its understanding of the acts and reports and their shortcomings, this committee led to the development of the new model of healthcare in India which was a structured strategy involving ground workers, PHCs, tertiary Care Centres and urban Hospitals. Kartar Singh committee has given the recommendation for institutional delivery, family planning, and nutrition. Srivastav Committee in 1974 recommended planning for medical education.

Public Health in Modern India :

Modern India has two face – India and Bharat . On one side there was a rapid advancement of Technology,

foreign Investment in health, urbanization, Industrialization and increased demand for upgraded healthcare facilities. On the other hand as a byproduct of urbanization, deforestation there was an increased incidence of zoonosis (emerging and reemerging infections), vector-borne diseases (due to poor sanitation and drainage), an exponential increase of Noncommunicable disease (Diabetes, Hypertension, obesity), and mental illness. Urbanization also led to a gradually increasing disparity among the poor and the rich population. This led to an increase in the slums and deterioration in the sanitary conditions which further heralded to the increase in the number of communicable diseases. Since the nineties, there has been a decrease in the ratio of doctors to the general population which led to a delay in the presentation of the patients to the health care system.

National Tuberculosis Programme was restructured as RNTCP from 1997 which was characterized by direct observation of therapy by health workers. There was a significant reduction in failure rate in Tuberculosis with improved compliance. GOI took an ambitious project at 2017 to END TB by 2025.

NACO was formed in 1992 in the face of HIV an emerging epidemic. Prevention, creation of awareness, and treatment was three primary Goal.

The malaria control program was renamed as the 'National Vector-borne Control Programme' in 2003 to bring all vector-borne control programs under one umbrella.

National Health Mission was formed in 2013 to form a link between community and health system through the Accredited Social Health Activists(ASHA), Health Care Contractors providing facilities of Janani Suraksha Yojana, National Mobile Medical Units, Janani Shishu Suraksha Karyakram, Rashtriya Bal Swasthya Karyakram, Tribal TB Eradication Project and National Iron+ Initiatives to the community.

In a significant move GOI taken initiative "Swachh Bharat Mission" on 2nd Oct 2014 to achieve an " open – defecation free" and eradication of manual scavenging

"Sanitation should not be seen as a political tool, but should only be connected to patriotism and commitment to public health."

To meet the demands of the affordable societies, the government boosted the corporate sectors to invest in health care facilities having high technology with high cost. Medical Education was also restructured with the encouragement of setting up more medical colleges with increased undergraduate and postgraduate seats. As the public sector was not capable of the meeting making the ends meet, the government turned to the corporate sectors for help.

But there is a darker side also, which is not beyond criticism. Unfortunately, the focus has been shifted in modern India. Some imbalance appeared between the Public Sector and Private Sector. The government of India gradually moved towards a Hospital-based Public health approach rather than involving mass. The shifting of Focus further deepened after 1990 particularly when GOI adopted an open market policy. Model Public health policy which was adopted in 1950, though rectified in 1987 yet to implement by most of the states. So the focus was more on the curative aspect, rather than preventive, more on hospital-based service rather than community-based service. So also changes came in Medical education also. Boosting of private enterprises, insurance-based policy, more and more super speciality focus deepened the crisis. The Public Health sector was neglected and so there was an increased incidence of both communicable and non-communicable diseases. The high cost of illness, disability, and death put Indian society in a crisis, particularly the poor was the worst sufferer. Also, profit driven Corporate sector attracted Medical Professionals more towards its curative and technological-based practice which is financially more lucrative.

"We are not against private health care, but it shouldn't take the place of public health care services. Relying too much on private medical care, without the availability of public health services will allow exploitation of under-informed patients and their families, because of the asymmetric nature of healthcare knowledge,"

— Amartya Sen

There were several outbreaks of different epidemics, but the lack of modern infrastructure to combat diseases more in a field of Communicable diseases lead to a helpless situation to the Government and People. It became grossly exposed during the COVID pandemic. Having such lacking, Govt tried to adopt the old method of controlling epidemic – quarantine, and lockdown. But these strategies are not beyond controversy. On one side restricted freedom, and on the other hand, the gross economic fallout which is crucial for the poor, who become poorer. In India, there is gross apathy in maintaining the database, making difficulty in determining Health indices for proper health planning. Indians often rely on western data for formulation health strategy, which may not be appropriate in the Indian context. The problem further intensified due to social, cultural, economic, environmental diversity. Health planning or policy cannot be uniform across the whole country. Decentralization should be the rule in the Indian public health approach. The public health

approach in India is hospital-centric, health planning is concerned more with the health of health care services than the actual health of people. The remedy was sought in terms of different control programs again those were implemented through hospitals. Control Programmes have shown success but often ended with poor maintenance.

Medical Education and Public Health :

The British Govt realized the need for huge trained health care personal in this country. To fulfill the gap that time Colonial Govt established Calcutta Medical College in 1835. Gradually a few more colleges opened but the curriculum of Medical education formulated. Indian Medical Services introduced in 1896 to create health care administrators. School of Tropical Medicine in 1922 and All India Institute of Health and Hygiene in 1932 aimed at basically to control epidemic and endemicity of Communicable diseases. Public health and medicine have been mutually dependent and interact with each other. So Health education and Medical education should have interplay at a certain point in time. With the establishment of the Medical council of India in 1934 medical education got a jolt. Post Independence GOI had taken several steps to boost Medical Education, still, there was a gap in the public health approach by medical graduates. So in ROME program launched in 1977 for the adoption of preventive, promotive, and curative health care in the community.

Development of International Health Agencies :

Unicef was formed in 1946 aiming to alleviate poverty, good health, and wellbeing of children and mothers, education, removing gender inequality, and improved sanitation. WHO was established on 7th April, 1948 was a major breakthrough in the history of the Public Health of World. The aim was universal healthcare, monitoring public health risk, coordinating responses to health emergencies, promoting human health, and well being.

Vaccination and Public Health :

Vaccination is an important tool in the Public health care model. Tribute to Dr. Edward Jenner 1796 who brought the concept of vaccinology. In annals of Medicine in his article " inquiry into the cause and effects of the variola Vaccine," he had written " Cowpox protects the human constitution from the infection of Smallpox". Subsequently in nineteenth-century vaccination against rabies, Plague, Cholera discovered. In the twentieth century there were significant advancements in the discovery and implementation of vaccines. With the formation of WHO, UNICEF, ROCKEFELLER FOUNDATION world moves towards a universal Immunization program (EPI by WHO in 1974). There was significant decline of few killer communicable diseases like Polio, Diphtheria, Cholera, Whooping cough e.t.c. More significantly in 1979 WHO declared the world is free of smallpox. But in Twenty-first Century there are emerging and reemerging of few infections.In this century there is a significant advancement in technology, but political will and investment can only bring a new dawn in the prevention of communicable diseases. In the COVID pandemic, there is a rat race to launce Vaccine by different countries to grasp the market as early as possible. If the economic agenda dominate over the social issue, it can not serve the best, as there is a chance of deprivation of poorer countries because of less affordability. For any infection, it is the universal coverage that can only eliminate the virus.

Poverty and Health :

Poverty is a major cause of ill health and a barrier to accessing health care when needed. This relationship is financial: the poor cannot afford to purchase those things that are needed for good health, including sufficient quantities of quality food and health care. But, the relationship is also related to other factors related to poverty, such as lack of information on appropriate health-promoting practices or lack of voice needed to make social services work for them. Ill health, in turn, is a major cause of poverty. This is partly due to the costs of seeking health care, also due to the considerable loss of income associated with illness in developing countries. This issue surfaced during the COVID pandemic in Migrant labor issues. Poverty forced migrant laborers to stay in congested rooms , taking less nutritious food and lead to spreading disease from one to another.

"Poverty is the greatest polluter"

— Mrs Indira Gandhi, 1972

This proves the Public health approach is multidimensional. Economical health of an individual or community is essential for the successful implementation of Public health Programmes. So also education. Otherwise, all beautiful efforts will be looked like a fried Roti.

ক্ষুধার রাজ্যে পৃথিবী গদ্যময়
পূর্ণিমা চাঁদ যেন ঝলসানো রুটি

— Sukanta Bhattacharya

Religion and Public Health :

The Kurma Purana states that taking the *pratah-snana* [bath before sunrise] makes one *namohsuchi*[pure] and allows him to perform duties such as japa, homa, and Deity worship. If a person eats without having bathed, he is said to be eating

filth. *Pratah-snana*is compulsory for all, except those who are ill. In Vedic culture bathing is considered a sacred act to be accompanied by meditation on the Lord and recitation of prayer. A bath can purify even a sinner, for it has the power to wash away all external and internal contamination. Even the Qurans have stated that, cleanliness leads to the state of "Fitra" or "fitrah" (Arabic: فطرة ; ALA-LC: fimrah) which is the state of purity and innocence. But during the Medieval times, religious outlook started dominating over the society's thinking and policies leading to its distortions like practising child marriage, avoiding family planning and avoiding taking immunisation based on religious beliefs alone. With the advent of European Renaissance, exploration of freedom of thinking and scientific thinking took place which had a very positive impact on the public health care.

Health and Economics :

Productivity can be boosted by a demographically young population if we can protect them from ill-health. Education and health can generate a diversified workforce that can be an asset of a country. There is robust evidence that investments in public health can pay rich economic dividends. WHO Commission on Macroeconomics and Health (2001), two other economists-led reports on Investing in Health (1993, 2013) concluded that investments in public health will generate rich returns and ensure economic growth.

After the 1990s, there is economic growth in the country, increase GDPs, investment in service sectors, urban sectors, trade, but health investment is preferentially in private sectors that are mostly focussed on technological based super speciality services. Govt spending in Primary health care system or Public health is less than 1.2 % of GDP. Average spending in the Health sector in developed countries is around 8.8% of GDP . This proves Public health is the least priority in India,

"India can boost in human capita's productivity by investing in education and Healthcare"

— International Monetory Fund (IMF)

Questions may be raised as to how this can be done at a time of economic crisis. History teaches us that such an investment may be useful in times of economic adversity. South-East Asian countries invested in health and universal health coverage during and soon after the Asian Financial Crisis of the 1990s. The United Kingdom adopted universal health coverage soon after the Second World War. Japan invested in the early 1960s for recovery from the economic crisis that happened by defeat in that war. All of them recognized that better investment in health is a winning tool for economic development. India too should follow the path to boost the trajectory of its economic growth.

At the bottom of Pandora's box lies hope. COVID-19, which emerged as a curse of our physical, economic, and social life, will fade away with time. We can only regain our glory If we embrace our old proverb "Health is Wealth".

"Economic Growth without investment in human development is unsustainable andunethical"

— Amartya Sen

All efforts will go in vain if we cannot create vibrant, enlightened, committed health care workers – including Doctors, Nurses, Paramedical staff, public Health. administrator a dedicated Public health Specialist with good remuneration (including insurance for death or disability), satisfaction, and pride in the profession. Separate Fund allocation on Public heath, the building of infrastructure, and Human resources should be a priority. There should be a strong surveillance system that can exactly detect or predict an outbreak. India has an Integrated Disease Surveillance system (IDSP) but needs a stronger commitment with legislation to meet any challenge. 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. We should not repeat mistakes of the past and should be prepared with a better epidemic act that will incorporate human emotions, participation, preserved fundamental rights. Pandemic provided us with a break from the past and an opportunity to relook our approach.

"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."

JIMA, Editorial, May 2020

So in my opinion, this pandemic has given us a wake-up call for a long walk to build a stronger and trust-based Public 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

From Archive

JIMA, JANUARY, 1946, P-122

JOURNAL OF THE

INDIAN MEDICAL ASSOCIATION

CALCUTTA, JANUARY, 1946

LEGISLATURE AND THE MEDICAL PROFESSION

India is a subcontinent of 655,000 villages. Over 90 per cent of its 400 million inhabitants live in and around the villages. While modern towns and highways have sprung up here and there, the villages are still in their old state, where approaches are difficult, environs are filthy, houses are badly planned, water-supply is primitive and inhabitants are the prey of small-pox, malaria, cholera, plague, leprosy, skin diseases and other affections. Visitors to our country and even our own countrymen have described the situation in gruesome tales. Some have blamed the villagers, and others the Government. But the fact remains that poverty and illiteracy are the main causes of this backwardness for which the villagers themselves are hardly responsible. The public health measures which had been introduced from time to time by the Government were scrappy, unimaginative and invariably were sacrificed in the end at the altar of finance.

To serve these 400 million there are about 40,000 doctors or 1 to approximately 10,000 people. Inspite of this low figure we find unemployment and crowding of the profession in the urban areas. We discussed this problem some time back. It is estimated that about 300,000 doctors are necessary for proper medical services to the people. From a recent summary of the Bhore Committee's Report published in the press we gather that it has recommended to provide one doctor for 2000 people. It also envisages to establish treatment centres in the villages with the help of local committees whose co-operation is considered to be essential for the success of the scheme. We hope to discuss this scheme in detail in future. Scientific medicine has made good progress in our country inspite of its illiteracy and low economic level. The benefit of scientific medicine can be made available on a wider scale to the people, if it is made cheap simultaneous with the intense activity of the public health department. It is a good sign that people have become health conscious and demand living wages, better housing, nourishing food and medical benefits. During 1939-41, the Government expenditure on public health was about 1*d*. (an anna is just over a penny) per capita in Madras, Bengal, and the Punjab and about 2*d*. in Bombay. This lamentable lack of public health in our country is a fact beyond dispute and one has only to look at the mortality figures from communicable diseases to confirm this. In one or two provinces the public health services are worse. The Famine Enquiry Commission came to the conclusion that Bengal Public Health services were not only 'insufficient to meet the normal needs of the population' but also that 'the level of efficiency was below the standard of certain other provinces'. Although public health was a transferred subject for the last quarter of a century we fail to understand why so little could be achieved so far except adopting stop gap and tinkering measures here and there.

It looks to us that time has arrived when the medical profession should ventilate the urgent necessity of public health measures for our country in the legislatures. It is unfortunate that so far the members of the medical profession have betrayed a sort of mental apathy and taken no active interest in seeking election to the legislatures and other local bodies. They have missed the opportunity of guiding the legislature along the right line and thereby focussing public attention on urgent reforms on public health problems. In England, the British Medical Association not only set up candidates for Parliamentary Committees but also finance their election expenses. In the last general election, a fair number of doctors have been elected on labour ticket. Now that the Selection Committees of the various political parties are busy in selecting their candidates to the Provincial Legislature, would it not be wise for them to select some competent medical men from the profession, who have given thought to the medical problems confronting the country?

The duty of giving effect to the recommendation of the Bhore Committee will naturally fall on the provincial legislature. Whichever political party dominates in the provinces, public health should be treated above party politics. It will be the duty of the medical men in legislatures to enlighten the house on the need of such efforts. At present dyarchy rules over the public health administration of the provinces. The Ministers-in-charge of the Public Health portfolio have been non-medical men advised by the departmental heads of the Government, the Surgeon-General and the D.P.H. The District health officers are in the employ of the local bodies and the D.P.H. has no control over them and no power of selection or transfer. Much improvement is needed in the above administrative machinery before any health programme is launched in order to bring any progress in the health of the people.

LATE CAPT. P. GANGULY

In another page, we publish an obituary note of Capt. P. Ganguly. He was associated with us as Assistant Editor from 1939-41, when he endeared himself to everybody for his sincerity, erudition and devotion to work. In his death the profession has lost an eminent member and the public a sympathetic physician. We pray to God that his soul may rest in peace.

From Archive

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independence, the G.M.C. would hesitate to raise the old silly objections and not only continue but extend the reciprocity.

Forward Steps Needed

In accordance with the spacious times ahead of us, we shall have to make some forward moves, sorely needed to keep pace with the demands on our profession. We must have a central office at Delhi (not in Calcutta) with a paid secretary and a weekly paper of our own. The central location is suggested as we have to establish so many contacts with the popular government at the centre and with the autonomous governments in the province, and speak in the name of one association and with one united voice. In the medical life of the country we should exercise the same influence as does the Congress in the political life. Nothing is done and achieved in this world without organisation and hard thinking. With the undoubted influence of the profession with the people, rich and poor, and with subscriptions of our own fraternity, it would not be at all difficult, I venture to say, to raise the necessary funds for the habitation of the central organisation at Delhi.

Our full time paid secretary will have plenty of work to do in organising the profession. The Congress with the office at Swaraj Bhawan in Allahabad deals with the administrative work of a vast organisation, and as our profession is also countrywide and will expand with the times, it is most urgent to have the building and the staff.

Our monthly journal is in need of becoming a weekly paper. The need of medical knowledge is much greater and it can be better served by means of a weekly rather than a monthly journal; and our profession has more journalist-doctors who know how to produce a smart weekly. Our paid secretary will supervise the work of this weekly. I feel it will pay its way, and may show even a profit in the course of time, as the thirst for medical knowledge and discussion is keener to-day than ever before. Let us appoint the paid secretary, give him the staff, rent a house at Delhi by transferring ourselves from Calcutta, and very soon we should achieve the ambitions of having our own building.

Quackery

Quackery is a subject which is a hardy annual at our meetings. The whole subject has been exhausted in writings and speeches. But the more it is condemned the more it seems to be thriving. I need not dwell upon its horrible evils. The paucity of qualified doctors and the poverty of the people are the cause for the existence of the quack. The population of the country is increasing rapidly and some one or other has to be found to give even a quack's treatment.

But those who practise, what goes by the name of the Western system of medicine, have a right to demand protection against the quack. He is reckless in Allopathic treatment. He is not deterred by the law; and he treads on ground where even the devils fear to tread. Some relief from quackery can be given by government by a few simple rules:—

(*i*) no medical practitioner shall be entitled to affix the word 'Doctor' before his name unless he is a registered practitioner in Western medicine;

(*ii*) no person shall be entitled to prescribe drugs which are in the British pharmacopœia, specially injections and poisonous preparations unless he is a registered medical practitioner;

(*iii*) those who practise the Unani and Ayurvedic systems of medicine may style themselves as "Hakims" and "Vaidyas" as the case may be.

There is need in this country for dealing as early as possible with the whole question of quackery. Our Medical Association can take up this question, draft a Bill, circulate it for opinion, and have it introduced through some of our doctor friends in the provincial legislatures. Better still, we must mobilise opinion in every province requesting Government to undertake such legislation itself, as quackery is a public danger and should no longer the tolerated.

The Health Survey & Development Committee (Bhore Committee)

We of the All-India Medical Conference are most vitally interested in the recommendations of the Health Survey and Development Committee (Bhore Committee), whose report has been signed and will shortly be published. It is a document of the utmost importance for the promotion of the public health of British India as a whole, and, I have no doubt, that the Indian States will find much in it of the highest value for their own guidance. In their letter while appointing the Bhore Committee the Government of India have asked them to "plan boldly, avoiding on the one hand extravagant programmes, which are obviously incapable of fulfilment, and, on the other hand, halting and inadequate schemes which would have no effect on the general health standards, and which would bring little return for the expenditure involved."

The Bhore Committee's task was two-fold. It had to produce a sufficiently good scheme for the whole country on which the future health services could be firmly based, and also to bring the cost within the country's financial means—a very hard task to be set before men, who had to think first of straw before they could make bricks.

In this unfortunate country we have never had public health services in the sense in which they are understood in the West. We have a few hospitals and dispensaries, hardly one for a taluka, considering the vastness of the population; we have no facilities for the curative and preventive side of disease; and hardly 10 to 15 per cent of the people have ever received the benefits of modern scientific treatment. Men die like flies of epidemic diseases because there are no organised medical and health services, and relief is only spasmodic. Hardly three annas is spent per head of the population by way of medical relief and sanitation, whereas in Great Britain they spend Rs. 54 per head and in the United States about Rs. 51. No country, in the world is medically so badly served as India because the Government here never considered the health of the people as its first and foremost concern and as its national wealth, as much as it considers law and order and the police and the military to be.

These are days of planning all round for economic and social amelioration and blue-prints are being pre-