

Climate and Health

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ABSTRACT

The changes in the health debate can be viewed as steps towards recognizing health as collective global and economic challenge and takes place also on economic forums agenda where role of climate change was underlined several times. The nation's most at risk for climate-triggered health crises are primarily in Asia/pacific and are already affected by the highest rates of disease burden globally although vectors spread to European countries. This is now observed in France in several departments (with risk of dengue, malaria, chikungunya.)

Keywords: COVID 19; Infectious diseases; Malaria; Temperate; Immunization

STUDY ANALYSIS

Climate change and rising global temperatures play a major role in spreading of infectious diseases and affecting global ecosystems and more. This in turn leads to more tropical diseases expanding into temperate regions with health and economic consequences one should anticipate.

Asia is currently going through a series of major transitions including globalization, urbanization, and climate change, which will present future challenges for disease control. It is estimated that by 2020, nearly 400 million business travelers and tourists will flock the region annually, compared to 100 million in 2000. This rapid increase in travel and tourism is a major reason for promotion of disease transmission and spread.

Also, by 2050, Asia's urban population is expected to increase by 20-25 percent, which means that 1.5 billion people will live in urban areas. This rapid urbanization and over-crowding in big cities such as Hong Kong, Beijing, Shanghai, Tokyo, Mumbai, and Jakarta, could increase the risk of infectious disease transmission.

What we live now with current COVID 19 is witnessing noted above.

The interconnected world makes it easy for pathogens resistant to anti-infective, antiparasitic, antivirals to travel across continents. Researchers and clinicians, academia, public and private sector is looking into solution to provide vector targeted solutions (World mosquito program - Dengue) but also to work on vaccines (not fully effective vaccine neither for dengue

neither for malaria approved yet) and treatment- no treatment for Dengue and raising resistance to malaria.

Many countries use traditional medicines given their empirical (not scientifically validated efficacy and accessibility for large population) to tackle infectious diseases including malaria. Artemisinin (herbal origin) "success story" witnessing this path and is not solely example attractive from research and clinical standpoint. While thinking how to make those potentially promising compounds evaluated one can note reverse pharmacology which relies primarily on clinical experiences, observations on actual use of herbal drugs in patients since long time.

Since safety of materials has already been gathered from traditional use track record pharmacological development, safety validation and pharmacodynamic studies can be conducted in parallel to controlled clinical studies. Reverse Pharmacology Approach is cost effective and time saving.

Looking into current scenario of anti-malarial drug resistance as an example, using this approach to validate the knowledge known for long time regarding a herbal anti-malarial formulation would be an asset. Latest anti-malarial drugs Artemisinin derivatives and ACTs are in many endemic countries ineffective [1,2].

This puts all major countries in the world at jeopardy and Asia region is no exception. Region and countries develop various strategies to manage and tackle the issues concerning healthcare

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infrastructure, huge population, spending on healthcare and fighting poverty.

Asia has seen unprecedented population growth. Region has been a focal point of economic development, driving unprecedented urban growth and every Asian city has a new airport through which millions of people, animals and commodities travel each year.

Many efforts seen and obstacles to overcome for effective public private partnership (PPP) to invest in public health infrastructure to prevent and control infectious diseases.

While looking from economic standpoint, in an increasingly interconnected world many public goods (GPCs) generate benefits such as a safer world, protection against the impacts of climate change and better health that are of vital importance to everyone and to the survival of future generations.

Since 2000, the fight against AIDS, tuberculosis and malaria has contributed to significant shift in the main paradigms of the health economics literature applied to developing countries: improvements in public health of the population are now considered a prerequisite, rather than a consequence, of economic growth; for health care financing, priority is given to promoting prepayment and health insurance mechanisms rather than “cost recovery” policies and user fees at the point of consumption [3,4].

Examples of GPCs include shared knowledge, surveillance system, effective immunization programs. Effective immunization programs adapted for South Asia need such as polio and recently launched child immunization reinforcement program easily illustrate cost effectiveness from long term perspective and several health economists confirmed this based on concrete examples from West Europe success.

Global health diplomacy as seen several times if well conducted results in better health security and health outcomes for each and all of the countries involved and improved health and economic situation including prevention and preparedness, diagnostic, treatment, effective immunization.

Women play important role in healthcare contributing to improved relationship between states in region and commitment of all stakeholders involved in health to work together to increase health awareness, education, equity and reduce poverty.

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