

## Indian medical research: perception and paradox

In order to improve "Indian Health System", a committee was set up by the government of India under the Chairmanship of Sir Joseph Bhore in 1943 and this committee in its landmark recommendation in 1946 said "If it were possible to evaluate the loss, which this country annually suffers through the avoidable waste of valuable human material and the lowering of human efficiency through malnutrition and preventable morbidity, we feel that the result would be so startling that the whole country would be aroused and would not rest until a radical change had been brought about". In this context Sir Joseph Bhore also recommended the establishment of a national medical centre which would concentrate upon high quality medical care, education and research. Pandit Jawahar Lal Nehru's dream to develop the temples of modern India became instrumental in the establishment of All-India Institute of Medical Sciences (AIIMS) as an institution of national importance by an act of Parliament in the year 1952. The development of AIIMS and subsequent similar institutions across the country were given the mandate to promote high quality teaching, patient-care and research of international standards. Although such institutions of national importance were instrumental in meeting the need for highly qualified manpower to look after the nation's expanding healthcare activities, the medical research in India miserably failed to evolve an interface between clinicians and basic scientists primarily because of perceptual paradox that exists between 'service providers' and 'academia'. The clinicians evolved out of training in the skills of health-care whereas scientists evolved as a result of academic thinking pertaining to "what", "how" and "why" of a problem belonging to either physical- or living-world.

Hence the medical research in India suffered because of the inherent dualism, in perception behind training and academia, emerging like two parallel lines which could never intersect to evolve biomedical strategy to address the challenges posed by various dreadful human diseases. The various national funding agencies for medical research in our country attempted to create a marriage of convenience between the clinicians and basic medical scientists without sense of purpose, depth and direction. No attempt was made to develop a reliable database in our country regarding three basic healthcare questions: A) what is the prevalence of any disease, say 'X', across the country? B) how this disease 'X' thrives in the identified regions in our country? C) why certain sections of the population are resistant to the disease 'X' in question especially in the area where this disease is highly prevalent? It is in this context that the institutions like Indian Council of Medical Research (ICMR) have miserably failed to evolve "creative-scientific research" equipped to address these basic three words e.g. "what", "how" and "why" of human diseases that have enveloped various regions of our country.

To encourage creative-research in human health, the institutions like ICMR should first identify the thrust areas of medical research based upon the reliable epidemiological data-base in our country and an attempt could be made to reach out to various biomedical-scientists and health professionals across the country to hold "brain-storming sessions" in small clusters in order to evolve comprehensive scientific strategy and to address each of the identified thrust areas of biomedical research. Care should be taken to couple applied-science with low technology rather than pure-science with high technology.

Lessons, from contemporary advancements in research, present compelling evidence as to how such initiatives have yielded major healthcare breakthrough across the globe e.g. Vitamin 'A' deficiency and Night blindness; Iodine deficiency and endemic goiter; Oral Rehydration salts (ORS) and acute diarrhea in children etc. No heed has been paid by ICMR to explore the link between nutrition, immunity and Infectious diseases. Compelling evidence already exists in the medical literature that deficiency of Vitamins ('A', 'C', 'D') can modulate the host immunity and genomics in all its dimensions and consequently play crucial role in the pathogenesis of infectious diseases. Hence, it is imperative that ICMR should initiate reliable and extensive research to explore the relationship between the deficiency of these Vitamins besides prevalence of infection diseases within the identified regions of our country. Such an attempt will go a long way in preventing many infectious diseases in our country at low socio-economical burden without any problem of drug-resistance in combating infections. Keeping in view the fact that even at the global level we are losing battle against degenerative diseases as well as obesity coupled with its associated metabolic disease cluster, new strategies will have to be evolved for the protection against such dreadful diseases. Such strategies could take into account the contribution of psychosocial stress for the genesis of chronic inflammation which is the central feature of both degenerative and metabolic diseases.

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