

## Prevention of Cancer

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“I want to be that president who ended cancer”, said a tearful Joe Biden at a gathering in the Rose garden of White House when he withdrew from 2016 presidential race in USA, a few months after cancer had claimed the life of his eldest son Beau Biden in May 2015. His words did not spring forth as an empty rhetoric of a grieving father but from a realisation and resolve that had gradually crystallised from his brush with a particularly fatal type of cancer and his countless interactions with leading cancer experts across the world during a two years long personal odyssey. “It can be done”, he said, “we need a moonshot”. The Beau Biden Cancer Moonshot programme with the audacious aim to compress ten years of cancer research in five years time was born that evening. The bipartisan support it later received in US congress, which rebuffed thrice Donald Trump’s effort to cut funding to National Cancer Institute of USA, the lead organisation for the programme, is a testament how much cancer affects everyone’s life.

Quite paradoxically the current pandemic, which throughout a full year has disrupted and delayed cancer treatment where each day counts in a big way, has also become a boon for cancer research work as envisaged in the Cancer Moonshot programme. Three main guiding principles on which this programme is being built are, erasing boundaries between different research agencies and interest groups even nationalities; sharing of big data and

experiment results in real time to build on each other's success so that time and money is not wasted in reduplication of work ; and simplifying legal and financial regulations for allocation of funds and resources to enlarge scope and reach of clinical trials. The swiftness and cooperation with which the medical communities and science researchers across the world have responded to the Covid pandemic breaking all boundaries to develop treatment protocols with new drugs and even vaccines by sharing clinical data and experiences often forgoing research credits has shown that it is realistic to realise those lofty objectives of Cancer Moonshot programme through multinational multi institutional global alliances. And that is exactly also the call of The World Cancer Day celebrated each year on 4<sup>th</sup> February following the adoption of Paris Charter at the World Summit against Cancer for the New Millennium in February 2000. The idea is to form a global alliance against cancer and, very importantly, one that will stretch up to the last citizen. Actively involving him or her. That is another lesson this pandemic has emphatically taught us again. The success of any public health programme to a great extent depends on the active participation of each citizen properly motivated through tireless awareness campaigns and sharing of relevant honest information. Which, when tried to be implemented on ground, is no easy task. All have seen how science has been abused during this pandemic through misinformation and spreading of myths sometimes tweaked for political interest sometimes provoked by genuinely held erroneous beliefs based on pseudo science. Anti vaccine movement and reluctance to undergo a biopsy procedure for cancer diagnosis are in a way two facets of the same problem.

Public education and spreading awareness regarding methods of prevention and control of cancer that is why is an equally, perhaps more, important component of all anti cancer programme. While there is one moon there are 200 different types of cancer with diverse biology that evolve through multi factorial multistep processes and it will be difficult to find a common path or trajectory to reach them all. While the curative fruits of modern cancer research grown with the sophisticated and costly procedures of genetic engineering and immune modulation will take time to come to clinical application and make a difference, sincere and innovative application of preventive oncology can solve much of the problem. Only cessation programmes for tobacco and other abusive cancer causing substances, HPV and hepatitis B vaccination, establishing telemedicine networks for remote screening of rural population and early detection, and periodical checkups individualised according to one's personal and family history, can substantially reduce cancer suffering in this country where 40 percent of cancer deaths are caused by preventable cancers.

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The pandemic has also taught us that reaffirmed an old lesson that the success of any major public health programme depends to a great extent on the participation of motivated public educated through awareness campaigns and sharing of trustworthy information and the apt political leadership. For as science has progressed beyond human imagination many respects, a combination of people living longer and longer in a degraded environment due to industrialisation and climate changes imbibing unnatural habits is also causing overwhelming increase of diseases like dementia, Alzheimer's, and a whole range of lifestyle diseases including cancer.

3. Realistic goals of world Cancer day

4. Preventive oncology, one step further.