

COVID -19 AND THE FUTURE OF HEALTHCARE

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Abstract

Covid 19 has been a real test, a shock, a shake up for our healthcare system, Countries, Global Health Organization like W.H.O. It will force us to look at our healthcare system in totally new light. It has exposed not only the healthcare system across the globe but the way in which communication and exchanges takes place in this sector. It calls for transparency in the way countries and related organization share and exchange information. It definitely calls for boosting our health infrastructure, healthcare spending, contingency and emergency planning and readiness, coordinated Global effort, a proactive Global health organization, indigenous development of healthcare equipments, self reliance, greater coordination between health sector and industry in developing cost effective yet quality technology , scaling up operations in short period of time etc. Again, Covid 19 has also brought the focus on collaborative health care, integration of traditional healthcare system like Ayurveda, Yoga and also integration with other departments like mental health etc. Yoga is technique extremely useful in respiratory and mental health diseases and the path clearly is laid out for healthcare integration. It calls for a higher safety for our medical personnel, developing stringent norms for healthcare equipments like masks, PPE kits. The positive light is that the medical community at large inspite of all the shortcomings have burned the midnight oil to save precious human life.

Keywords: Covid19, healthcare, W.H.O.

Introduction

Covid-19 has shaken the world like a sudden storm or tsunami. It has impacted every aspect of our life which include social, economic, environmental, ecological etc. It has shaken not only our health care system but the entire health industry, countries, institutions of eminence like W.H.O, doctors, virologists, researchers, global leaders etc. As on, 22 May 2020, there have been 4,995,996 confirmed cases of COVID-19, including 327,821 deaths, reported to WHO. A total of 216 have been affected by the pandemic. Spain, U.S.A, France, Germany were countries with high ranking on health aspects were on the receiving end of Covid-19. America had 15,25,186, Germany 1,77,212 , France 1,41,590, Spain 233,037 cases. The lack of specific medicine, vaccine or treatment have made things complicated and treatment is at best symptomatic. Covid-19 has not only affected patients but also frontline doctors, nurses, hospital staff, police , caretakers, cleaning staff etc.

Covid-19 has seen/ resulted in a global shortage of PPE Kits, Masks, life Saving drugs, Ventilators, Doctors, Oxygen cylinders, quarantine facilities, Coffins, Burial space, Isolation wards, doctors, medical staff, testing equipments, labs etc. Every country was found wanting no matter what was their health ranking. Again, there were few cities in the world in which the impact was very high like Newyork, Wuhan, Mumbai, Community of Madrid, Lombardy. The impact was so huge that our system was totally ill prepared for it. Huge shortage of PPE kits, Ventilators, Doctors etc were

reported. The manufacturing facility was not there for ramping up the operations immediately. In Italy and many other countries it was reported that doctors, nurses etc were working overtime during this crisis and were extremely tired or exhausted too. One of the reasons was that no one expected it to happen and sheer scale of it left everyone clueless

Hence we can see that Covid -19 has necessitated lot of changes in the future of Healthcare whether it be healthcare budgeting, planning, security, Global cooperation, communications, exploring the scope of integrating alternative healthcare or traditional system of medicine, enhancing safety mechanism, technological changes, transparency, preventive healthcare, evidence based practices and research in the field of traditional medicine will be necessary, bringing down healthcare cost, self reliance etc. The after effects of Covid-19 could be equally sharp as it will lead to slowing down of economy, unemployment, increased incidence of Global poverty, rising inflation, hunger, famine, shortage of food, rise in anxiety, stress and other psychological disorders etc. This could lead to malnutrition, weakness in the immune disease which in turn could lead to increased incidence of disease.

Objective

Covid 19 has thrown a lot of Healthcare challenges and probably exposed our Healthcare system. The objective of this study is to study the challenges thrown by Covid-19 and explore possible solutions, rethinking about the future of healthcare.

Literature Review

The paper talks about digital technology, telemedicine, incentives to increase penetration, monitoring and observing the impact, in view of the Covid-19 as a viable, alternative and futuristic mode of treatment. It will also minimize the risk of spread of infection.ⁱ

It is estimated that in Italy as on February 20% of Health care workers were infected. Healthcare workers are concerned about passing this infection to their family members. The article talks about shortage of PPE in most affected facilities, ventilators and talks about the safety of Health care workers.ⁱⁱ

The study tries to highlight the importance of N95 masks, PPE kits, eye shields etc in spreading of among healthcare workers while performing aerosol generating procedure.ⁱⁱⁱ

The study highlights the importance of artificial intelligence and its wide applications. It talks about efficiency in imaging, image reading. A.I based CT imaging techniques for quick decisions, sustainable means to stop the spread of virus rather than complete shutdown, restrictions etc. At the time it says it is no way a replacement for human intelligence, efforts and dedication^{iv}

Artificial intelligence was used in this study to predict the curves of cumulative confirmed cases and accuracy was found to be very high and can be powerful tools for public health planning and policymaking^v

Aerobic exercise have been found to improve depression related to systematic inflammation in copd.^{vi}

The study found positive impact of Pranayama and Yogaasana on Blood lipid profile in normal healthy volunteers. The study suggests Yoga may be useful in patients with lipid metabolism such as diabetes, cardiovascular, dyslipidemia^{vii}

Global Information sharing, Communication, Cooperation and Transparency

Covid-19 was a novel corona virus which occurred in Wuhan (China). It was reported that the Virus originated from Bats or consuming Bats soup from the Wuhan Sea Food market. But there were also reports that the virus leaked out from Wuhan Institute of Virology. It was also said that China was late and even misled in reporting the Case to the W.H.O and the world at Large which led to the Virus turning from endemic to pandemic. It was reported that China was trying to hide information regarding the virus including no of cases death, its origin, its spread etc. And due to this flight operations across the globe from China continued which contributed to the spread of Virus Globally.

The role of W.H.O, Countries, World leaders has also been questioned by many. This calls for greater transparency, information sharing, honesty, admitting mistakes, putting humanity first, effective and professional leadership.. Had information sharing been quick, early and transparent precious human lives could have been saved. A problem like covid-19 needs experts at the helm and not ignorant politician.

Covid calls for global cooperation whether it be financially, materially, in terms of human resource or resource sharing or sharing of competencies, research, collaborative work, even global coordinated research, sharing of data etc. We have seen for example India helping the world with medicines, Cuban doctors assisting in Italy, America helping India with ventilators, India- USA working together on development of vaccine. It should not be looked as an opportunity to make money. These are occasions for Global collection of funds to help developing countries which may face resource crunch.

Changes require in the Health care System, in the way we communicate and need of an effective alarm mechanism

It is without doubt that Corona Virus has necessitated changes in the healthcare system globally. This will require a huge rise in Healthcare spending across the globe.

One of the most welcome changes could be transparency as and when such a incident breaks out. The world has become a smaller place with global connectivity and travel, communications and trade have become extremely easy. Hence, the need to develop mechanism to tackle, monitor the global outbreak of communicable diseases and also prompt actions, if necessary. Transparency will help in taking preventive steps, developing early warning systems or alarms or trigger mechanisms and cutting of such places or isolating them, creating transport barriers or closing down Airlines, buses etc Communication also means how to we communicate with the public at large and ensure that correct information flows to them, through reliable sources

Integrating Health care system including Traditional Health care System

There is a big need to integrate our Healthcare system and its utility has been seen in a country like India.

A system like Yoga has been found to be extremely useful in respiratory diseases. Maharishi Patanjali has given us the system of Astanga Yoga which includes Yama, Niyama, Asana, Pranayama, Prathyahara, Dharana, Dhyana, Samadhi. Corona primarily affects our respiratory system and has been found to have a higher effect in people with comorbidities, respiratory problems like asthma etc. It has shown to have a higher effect in the aged where obviously there might be degeneration of lung tissues,

respiratory tract. Yoga has the unique system of Pranayama or Breathing techniques which help in building or enhancing our respiratory system. They keep our respiratory tract clean, long tissues healthy, flow or exchanges of respiratory Gases smooth, also prevents degeneration of long tissues with ageing. Yoga is a holistic treatment which ensures harmony of mind, body and soul. A study result suggests that Bhramari pranayama and OM chanting are effective in improving the pulmonary function in healthy individuals. It showed a significant improvement in PEF(Peak expiratory flow), FEF (Forced expiratory flow) and MVV (Maximum Voluntary Ventilation) with a significant reduction in weight in Study Group compared with Control Group in independent samples *t*-test. ^{viii}

Again, Yoga keeps our Brain healthy and keeps us free from anxiety, stress, depression through the unique technique of meditation, relaxation exercises etc and this is backed by evidence based studies or researches. Yoga significantly increases GABA levels in the Brain and is suggested for treatment for diseases with low GABA levels like anxiety, depression, mood swings etc. ^{ix} This is also applicable in the case of Corona as it has been observed that anxiety and depressive tendencies among people have increased. Also, those who recover from the disease can also face psychological, poor respiratory functions, weakened immune system which can be improved through collaborative or integrative medical system combining best of the east with the best of west. It is one of the best preventive and economical healthcare system in the world.

Even clinical psychologists, physiotherapist, nutrition experts exercise therapist have a role to play in such conditions. The Aysush Department has also prescribed Ayurveda and Ayush based lifestyle and immunity boosting measures.

Yoga, Ayurveda can also be considered an ecologically, economically balanced and affordable system. These are system which has hardly any side effect. However, the need is to increase research and evidence based practices in these field.

- Vitamin d3 can reduce risk of infection. Influenza etc in covid 19.

Those mechanisms include inducing cathelicidins and defensins that can lower viral replication rates and reducing concentrations of pro-inflammatory cytokines that produce the inflammation that injures the lining of the lungs, leading to pneumonia, as well as increasing concentrations of anti-inflammatory cytokines. ^x Further Vitamin C, Vitamin A, Vitamin B complex, Zinc, Magnesium etc can help in building immunity

Healthcare Changes required Post Covid-19

The health care sector, health policies Post Covid-19 will demand a lot of changes across the globe and it will be big challenge for every country, especially developing countries. Healthcare changes have to be looked at with twin perspective one from the perspective from developing nations and the other from developed nations. Developed nations can raise their healthcare spending substantially but the same may not be true for developing countries. Developing countries may be ill-equipped, face resource crunch, inequalities, unemployment etc And these things may rise due to the impact of Covid. It may also lead to anxiety, depression, psychological distress, even suicide, fear psychosis, psychiatric problems etc Developing nations have to follow the millennium goals for sustainable goals designed by the United Nations to remove inequalities, unemployment, removing poverty, Improving health education, health penetration, education, migrant labourers etc in this situations brought about by Covid-19

It will demand a change in the manufacturing of medical equipments, goods, medicines etc. It will demand scaling up of operations. One of keys could be designing make shift arrangement, portable infrastructures, build, use and throw units or

infrastructure. Infrastructures which are preassembled and could be easily built and this could be cost effective as well.

Artificial Intelligence based planning, predicting, imaging, research, resource allocation, distribution etc will be the key. Telemedicine, non-contact form of medical service, video-conferencing, robotics etc will also hold the key. These things can raise the healthcare cost significantly and could be challenge for developing nations.

As we have seen in the introduction part shortage of medical equipments especially masks, surgical masks, N95 masks, PPE kits, testing device, ventilators, adequate staff, trained workforce, doctors, blood, beds, coffins, burial space etc. Especially a developing country like India has shown the world that these things can be done indigenously with active interaction with the industry, educational institutes of eminence, medical fraternity. Manufacturing units should be able to spruce up operations as and when necessary or scalability should be high to meet increasing demand.

Safety concerns and Safety measures have to be increased in the health care sector. As we have seen Covid-19 has raised lot of safety concerns including quality of medical goods especially safety equipments, quality of masks, PPE kits, ventilators, sanitizer, safety norms, treatment safety distancing provision, how to ensure well being of doctors, health care workers, security officers, frontline workers, safety of ICU and ventilator rooms. Covid has taken the life of many frontline workers who are just invaluable. Enhanced infection management strategies have to be devised.

Covid -19 has led to substantial growth in hospital waste like masks, PPE which finally land up in oceans where they harm the aquatic life. So proper waste disposal strategies have to be devised.

Conclusions and Discussions

In the introductory part we have covered in brief the challenges before the health care industry and in subsequent part we have discussed the solutions which include :-

- 1) Information sharing, transparency, communications and global cooperation
- 2) Trigger and alarm based mechanism, quickly introducing social distancing, lock down, transport barriers and isolating mechanism of cities or place to stop the spread of any communicable diseases.

- 3) Integration of traditional healthcare system with modern healthcare system and encouraging and promoting research and development in the traditional healthcare system.

- 4) Health care, manufacturing, technological, financial changes in the field of health care, scalability in manufacturing, indigenization, global cooperation, collaborative research etc. In technological changes we can say greater implementation of Artificial intelligence, robotics, telemedicine which will also add to the safety of health care workers. In financial we can say increasing the health budgets, investment in technologies and research, increasing capacity etc. There are so many more things we can do like training etc, creating a skilled and trained workforce, quality in manufacturing etc. Another important thing is to promote preventive health care which may need the spread of health awareness, nutritional awareness, literacy, proper and correct sharing of information as distinct from rumors. Developing nations also have to follow the sustainable goals designed by United Nations

- 5) Health sector must also reflect human values, environmental values as both are closely correlated.

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