Innovative Practices in Preventive Health Care Services in Covid-19 and Disease Management

K. Anusha¹, V. Praveen Kumar² and D. Praveenadevi³

¹KL Business School, Koneru Lakshmai Education Foundation, Vaddeswaram, Guntur

²MBA, P.V.P.Siddhartha Institute of Technology, Kanuru

³K.S Rangaswamy College of Arts and Science, Tamil Nadu India

ABSTRACT

The Indian healthcare industry is transforming. It is the time to adopt for new models and approaches. The study aims to understand the preventive care practices in disease management and; to develop a framework with innovative preventive centric solutions. Preventive health is the area of focus. Before Pandemic, Non-Communicable diseases as cardiovascular, diabetes, cancer are the diseases responsible for mortality and morbidity in the country. A theoretical methodology is adopted to engage individual in preventive healthcare practices for their disease management during the pandemic. A model was developed to understand the importance of health literacy in prevention of disease. The paper explores innovative practices like patient centric solutions and product based health care services in preventive healthcare management. Also, the paper suggests the strategies for the government in preventive care also provides the low-cost approaches for effective preventive management.

KEY WORDS: COVID-19, NON-COMMUNICABLE DISEASES, BUSINESS MODEL INNOVATIONS, PREVENTIVE HEALTH CARE, PATIENT-CENTRIC SOLUTIONS, INDIA.

INTRODUCTION

According to a WHO report, 3.19 million deaths were recorded in the world; on a 7 day average 11,990 deaths were recorded as of 2nd May 2021 due to the global pandemic covid-19. Before Covi-19, 71% of the overall deaths recorded are due to non-communicable diseases like cardiovascular diseases, cancer, chronic respiratory, and diabetes. Preventive health care management in the long term will provide better outcomes to the patients. Preventive health care focuses on prevention by screenings, counseling, and maintenance of future illness. For a healthy life to lead preventive healthcare measures are a must. It is important to slow down the progression of illness by understanding preventive healthcare solutions.

For prevention to happen it is vital to have information on a daily basis, which can help the population to follow all the precautionary measures to stay fit and healthy. Medical practitioners, hospitals, and clinics play a vital role in the detection of ailment which done early can save huge money to the patient.

Wellness Management and Preventive health

A state of a healthy balance of the mind and body that results in overall well being

-NABH

The concept of preventive care is multi-dimensional with emotional, physical, mental, intellectual, social, physical, occupational, and environmental dimensions. Each dimension is vital in increasing the quality of life. Optimum wellness is achieved by understanding every dimension of wellness.

Emotional wellness is all about one able to cope up with life challenges. Emotional wellness services available are counseling sessions, anger management, stress

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management services, personal development services, and healing services. Physical Wellness is all about being proactive and preventive. Physical wellness is bought by diets, fitness centers, health checkups, vaccinations, diagnostics, alternative therapies, wearable technologies, beauty care, pharmacies, and disease management. Spiritual Wellness is a broader concept of values and beliefs and its existence in the system as a whole. Spiritual wellness services are meditation, yoga, and life coaching services.

Intellectual Wellness is all about openness in learning new concepts and methods. The services include critical thinking, education and skill development, simulation exercises, and time management. Social Wellness is the ability to connect with people. Social wellness begins with empathy and active listening. Family relationships, self-discipline, group discussions, joining clubs will increase your self-esteem. Occupational wellness is all about balancing work. Occupational wellness explores career options, choice of a career, and balance of work-life. Realistic goals are to be set and practice open communication and involve in proper conflict management. Environmental Wellness is the responsibility for clean air and water. Environment wellness begins with understanding our surroundings, getting outdoors, volunteering for organizations in conservation of energy and recycling. Financial Wellness is achieved by managing wealth. Financial wellness is bought by having control over day-to-day finances, preparing for the unexpected, and freedom in making choices.

Patient-Centric Solutions: The government of India needs to initiate, run integrated programs for chronic diseases to increase the consultation in bringing quality of life by avoiding costly treatments, early diagnosis, and remote care for chronically ill patients.

Health initiatives include technologies like data governance, blockchain technology, initiate a high degree of transparency in interpreting data that is secure across the network, and acts as an input in better preventive care management. eHealth products have a huge opportunity for business start-ups in products and services, in categories as infrastructure in data analytics, devices that accelerate self-care. Mhealth is all about the delivery of healthcare services via mobiles and make the patient aware of the growth in technology. The government of India is taking up projects of initiating immunization, maternal care, diagnostic, treatment support through apps.

India's telemedicine market has witnessed significant growth in recent times, largely because of its potential to provide world-class clinical and medical services to distant and rural locations across the country. The healthcare disparity is mainly due to a shortage of trained health care professionals and a lack of necessary infrastructure in remote areas of the country. Telemedicine is a tool for health care delivery, particularly in curative & preventive healthcare. Telemedicine as a method of

healthcare delivery has been successfully tested all over the country, and the results have been very promising.

Tele-health in real-time uses remote sensors, channels of communications, and data-processing technologies that enable interactions between the individual and health care providers. The technologies of telehealth facilitate access to health care professionals, reach patients across distances by getting meaningful data.

Healthcare Information Systems: (HIS) is about managing and transmission health-related information to individuals and organizations. HIS Involves functions like data generation, compilation, analysis, communication, and use. Data from various levels, at the Individual level, the population as a whole, health facility is generated and summarized to enable that decision at all levels. The HIS incorporated hospitals are into best practices and are eager to build business enterprises strategically focusing on innovations. The product incorporated in the organization analyses the process at 360 degrees level and brings improvement in the practices by managing a high level of patient volumes through optimal utilization of resources.

Electronic health records are digital versions available at health care centers. These records facilitate information sharing among the health providers, diagnostic assistance, assistance who is involved in the process of care. The complete healthcare information can be accessed by a practitioner in a secure and timely manner. The electronic health record includes all the information about the patient's health family medical history disease diagnosis, medications used, allergies if any, and lab and test results. With the help of e-health records the practitioner accurate and complete information about the patient's health in ensuring the best possible care.

The function of EHR includes communication disease surveillance, electronic billing and insurance, lab orders, and patient demographics- education. The other important reasons include less paperwork, reduction of medical errors. Evolve up in linking patients, practitioners, diagnostic centers; pharmacies are connected over the internet in a standardized format. The company offers an EMR module to record and retrieve the information of the patient. They do provide a central repository in an organized and structured manner. So those, the health care providers can easily access the data. ICT is used in practice management laboratory tests, prescriptions, documentation, and decision support. Precision Medicine is a model of medicine tailor-made to a particular patient. In India, precision medicine is evolving and emerging and is currently involved in the treatment of oncology, cardiology, and psychiatric. Precision medicine is slowly getting adopted by Indian clinics. A rise in income in the country is accepting the concept of genetic testing, early diagnosis, treatment, and prevention.

Population Health Management across the population brings clinical, financial, and operational data through business intelligence tools. The value-based care starts

for patient compliance and satisfaction which requires streamlining interoperability to identify opportunities that further leverage best practices through data transparency for better patient care. The PHM tracks health using IT, managers share and helps in identifying the gap between the precision and organizations in allowing access data in real-time. Finally, leveraging data analytics improves health outcomes and brings our cost-effectiveness.

Product-Related Solutions: Interoperability is an exchange of information within and across boundaries. In healthcare, the service allows for the exchange of information through the flow of data. Data shouldn't be piled up have to flow from point to point and if data missed can lead to a loss in prevention as well as for the organization financially. Once the data is available the data should be flexible in facilitation that it can eliminate the gaps and finally the data should be feasible so that the data can be captured on a real-time basis.

Lean Start-Up Solutions: It is a risk to launch a startup. In the Indian atmosphere where startup failure is more common, the lean startup concept allowed the startups in healthcare to move forward with less risk. The healthcare industry is gaining ground focusing on innovation and intensively needs to focus on driving down risk. Preventive health care startups are supposed to drive down costs and foster innovation in the healthcare industry through lean startups.

Continuous Improvement in preventive health care services is an ongoing process that can be incremental or breakthrough innovation. Preventive healthcare services need to Plan health and assess health, do educate the patient on health, Act with considerable support programs, reward the promoters of health and Check for the improvement with the data available and continue the process with feedback at every step to be innovative. Wearable Medical Devices are electronic devices attached to the human body in understanding the health of an individual. The devices do possess various functions like tracking, monitoring, disease management, and rehabilitation. Growing elderly population and illness, the rise of incomes are making the patient enable them to have these wearable devices

Preventive Healthcare Practices –Organizational Level:

The organizations get involved to be focused on business model innovations. The business should create value, share information, and engage in providing personalized care, networking, and cost-effectiveness. A Business especially the pharma and medical equipment companies have to work on war footing towards the fight against and Covid-19 and for the future of the organization

The following can thrive the companies:

1. Crisis Management Team: to be deployed to set up business continuity plans, trigger action, and define communication between employees, customers, vendors, and the management.
2. Research & Development: Clinical trials, investigate alternatives, impact racking, and strong

communication platform with the patients and the operations.

3. People Management: strict protocols, periodic health checkups, and daily monitoring across all locations
4. Plant and Operations Management: Prepare for a production plan to cater to the needs of the domestic market. Simplify the operational work charts and electronic payments and explore new avenues to serve better as a telehealth
5. Supply Chain Management: Review the demand, improvement in supplies, search for alternative suppliers and increase in warehouse capacity
6. Financial Management: Manage Payables, Inventory, cash-to-cash conversion cycle, variable costs, and audits.[15]

6. Preventive Healthcare Practices –Individual Level

Individuals Prevention towards Covid-19

1. Know how the Virus Spreads
2. Maintaining the Physical Distance of Approximately 6 Feet
3. Restrict Yourself from Social Gatherings
4. Double Masking
5. Practicing personal hygiene: often involve sanitizing
6. Good Food and Supplements
7. Watch the symptoms

It is very clear that wellness programs promote healthy behaviors like

- Being active for at least 30 minutes per day can reduce the risk of chronic disease
- Periodically getting diagnosed with chronic illness.
- Including a well-balanced diet including fresh fruits and vegetables
- Manage stress with Work-life balance
- Smoke and alcohol-free life is the most crucial step to good health

Well-structured programs promote behavioral changes that can play a crucial role in decreasing chronic health care cost burden and also help people to lead a successful healthy life.

Table 1

Health Infrastructure	High	Integrated Surveillance	Proactive Surveillance
	Low	Preventive Surveillance	Continuous Surveillance
		Low	High
		Density of Population	

Preventive Healthcare Practices –Government Level: Surveillance Strategies:

The goal in front of all the countries is to slow down the transmission of Covid-19. Here are the surveillance strategies that can help various countries to prevent and manage the pandemic.

Table 2. Immunization by 1st May 2021 in select countries

Name of the Country	Covid-19 vaccine provider	Total population Immunized by May 1 st , 2021
U.S	Pfizer, Moderna, J&J	40% Population received a single dose
U.K	Pfizer & BioNtech, AstraZeneca	65% of the adult population received a single dose
Russia	Sputnik V	8.5% received at least one dose
India	AstraZeneca, Bharath Biotech	1.9% fully vaccinated
Israel	Pfizer, Moderna	56.3 % Fully Vaccinated

Figure 1: Framework for Preventive care

Surveillance is considered important in prevention the above figure takes density of population and health infrastructure as two parameters in deciding the strategy for the countries around the world that can help in prevention. Immunization the best preventive option the world population has for Covid-19. The government has a pivotal role in providing the infrastructure and logistic support to the population to combat the Covid-19. The countries are working on improving their production capacities to meet the need existing in the market towards Covid-19 management. The table below provides the information of few countries and their progress of immunization.

Health Literacy is an action to improve the living conditions during pandemic. Access to health information can achieve a level of management to improve personal and community health. The developing countries to progress in pandemic management must raise the health literacy among their population for long-term benefit.

DISCUSSION

Preventive behavior and Covid-19 awareness is associated with health literacy. Strategic intervention in view of Covid-19 management can yield to the benefit of prevention. Immunization, Surveillance and Preventive measures at Individual level are the options in front of the countries. The dissemination of information in Research and Development, Quality, Production, Lean Tools and Techniques, Logistics and Supply Chain are important in disease prevention.

CONCLUSION

Preventive programs to be offered by Health companies and governments can help the population stay fit. A

structured research in dissemination and transfer of the knowledge with adoption of technology enabled centric solutions in health care can primarily address the prevention. The countries through their health assessment, health education, and support services can prevent the spread of the virus and diseases further.

Limitations and Future Scope of the Study: The Paper is a review paper further an analytical paper can support the results discussed. Covid-19 a problem prevailing had a scope further to know how government and individual have to participate actively in its prevention.

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