

**TO EXPLORE THE POSSIBLE REASONS AND
NEED BEHIND THE BEGINNING OF THIS
NEW ERA OF ONLINE HEALTHCARE
CONSULTATION: SYSTEMATIC REVIEW**



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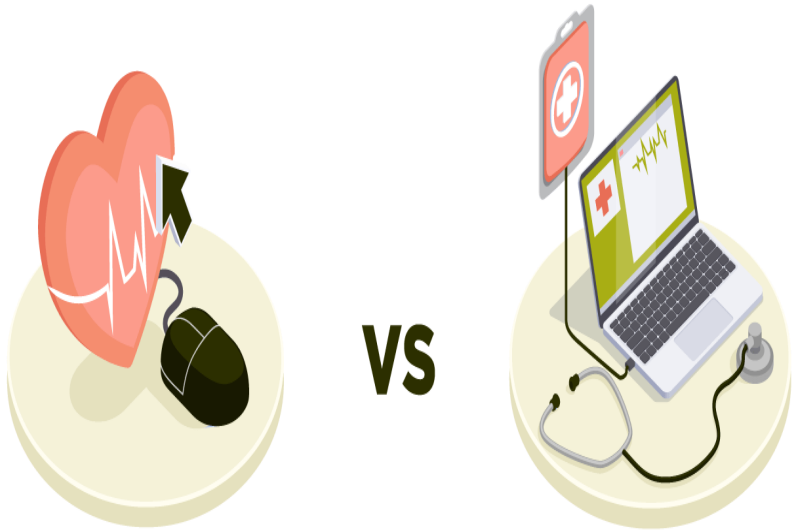
Batch: HM-25 (2020-2022)



INTRODUCTION

The Healthcare sector has become one of the largest sectors in terms of revenue and employment. Modern technology in the healthcare world leads to connecting millions of patients with numbers of healthcare providers around the world. In recent years, the fields of technology and medicine have worked together to create an explosion in the medical field. When taken separately, medicine and technology have already shown themselves to be powerful enough to stand on their own as distinct sciences promoting our nation's economic development. Health care professionals today must be adaptable, creative, and efficient with the latest available resources. For this, more technologies are constantly being invented, and the area has developed to the point that it can be classified and addressed separately.

TELEHEALTH V/S TELEMEDICINE



What is telemedicine?

Telemedicine is the practice of medicine using technology to deliver care at a distance. A physician in one location uses a telecommunications infrastructure to deliver care to a patient at a distant site.

What is telehealth?

Telehealth refers broadly to electronic and telecommunications technologies and services used to provide care and services at-a-distance.

What's the difference?

Telehealth is different from telemedicine in that it refers to a broader scope of remote health care services than telemedicine. Telemedicine refers specifically to remote clinical services, while telehealth can refer to remote non-clinical services

TELEMEDICINE

“Tele” is a Greek word meaning “distance” and “mederi” is a Latin word meaning “to heal”.

Father of Telemedicine is Dr. Jay Sanders - first setup of telemedicine Boston Logan Airport to Massachusetts General Hospital 1967

There are several definitions of telemedicine. According to World Health Organization, telemedicine is defined as, *“The delivery of healthcare services, where distance is a critical factor, by all healthcare professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for continuing education of healthcare providers, all in the interests of advancing the health of individuals and their communities”.*

RATIONALE

- The main rationale for the development of telemedicine services has been the desire to provide health services to persons whose access to health care is restricted for one or another reason.
- COVID- 19 has made it impossible for patients to visit a doctor for a physical one-on-one interaction but has in away paved path to several telehealth facility
- The major goal of this study is to examine the viability of online healthcare and the necessity for additional research in this area to develop the subject further.
- This study will also pave the way for healthcare providers to recognize the need of being tech-savvy in today's world. Incorporating technology into medical research is essential.

STUDY OBJECTIVES & METHODOLOGY

Research question: To explore the new ideas of Telemedicine/Telehealth-
“Alternative way of fact-to-fact consultation”

OBJECTIVE

The major study objective is to explore the possible reasons and needs behind the beginning of this new era of online healthcare consultation.

SPECIAL OBJECTIVES

1. Assess the need of Telemedicine/Telehealth.
2. Identify the areas or services covered by the online healthcare providers.
3. Status of the nationally and internationally service providers.
4. Opportunities & threat perceived by the online Healthcare service providers.
5. Future of Telemedicine/Telehealth in India

Study type: secondary study

Study design: Observational descriptive study (Narrative review of published studies and articles)

Study Tool

1. Online PubMed and Google Scholar site.
2. Structured search strategy using appropriate keywords and MeSH terms

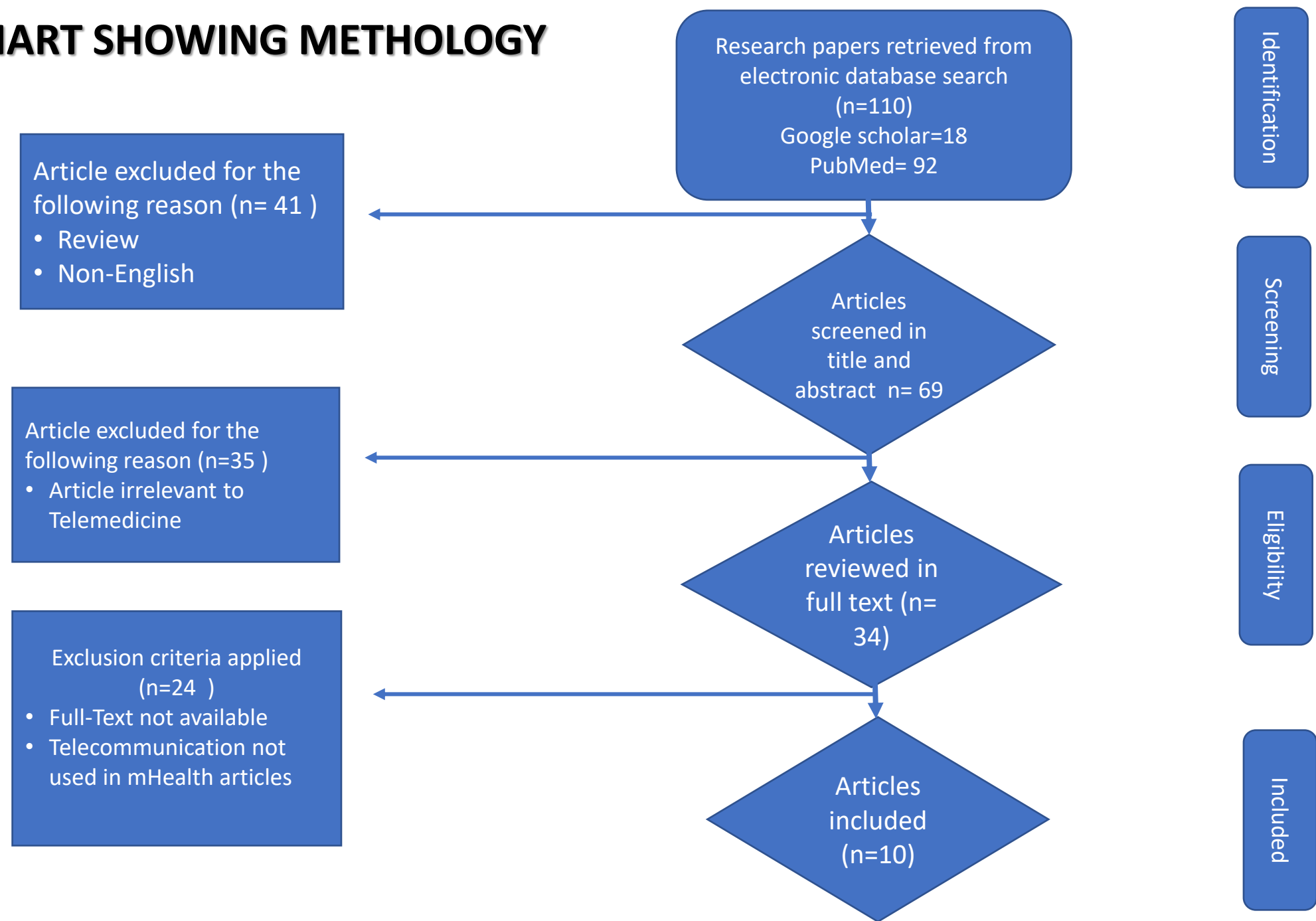
INCLUSION CRITERIA

1. Studies published between 2015 to 2022.
2. Primary research paper including both
3. qualitative studies and quantitative studies
4. Studies included E-Healthcare.
5. Studies reported in English.

EXCLUSION CRITERIA

1. Studies published before 2015.
2. Studies does not describe online Healthcare
3. Studies using concept of online healthcare but not specific to business model on online Healthcare.
4. Paper not written in English.

FLOW CHART SHOWING METHODOLOGY



Review Findings

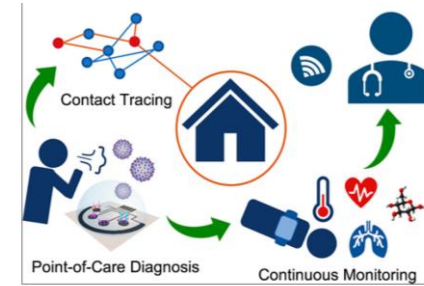
1. Assess the need of Telemedicine/Telehealth.



Overcome patient barriers to receiving care by reducing cost of staff and patient travel.



Improved patient and provider convenience



Telemedicine's potential in the COVID-19 pandemic



High degree of provider satisfaction



Increased levels of sustainable services

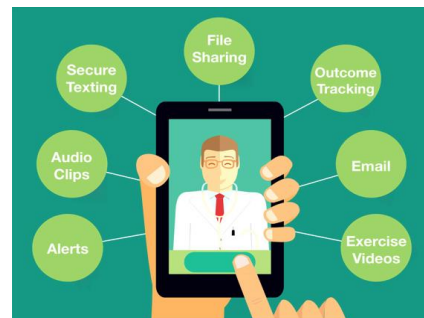
2. Areas or services covered by the online healthcare providers

According to American Telemedicine Association (ATA), "Telemedicine is the natural evolution of healthcare in the digital world"

There are 3 modes or buckets of telemedicine and there different offerings



Synchronous (real time)



Asynchronous (Store-and-forward)



Remote Monitoring type of telemedicine

Two main ways of telemedicine



Patients to Providers



Provider to Providers

Synchronous (real time)

Where the sender and receiver both are online at the same point of time and 'live' transfer of information occurs

*Definition- The American Telemedicine Association (ATA) defines synchronous telemedicine as follows:
"Interactive video connections that transmit information in both directions during the same time period."*



Asynchronous (Store-and-forward)

Where the sender stores the information databases and sends it to the receiver at a convenient point of time, and the receiver can review the data according to his convenience

Different offering



e-Consult



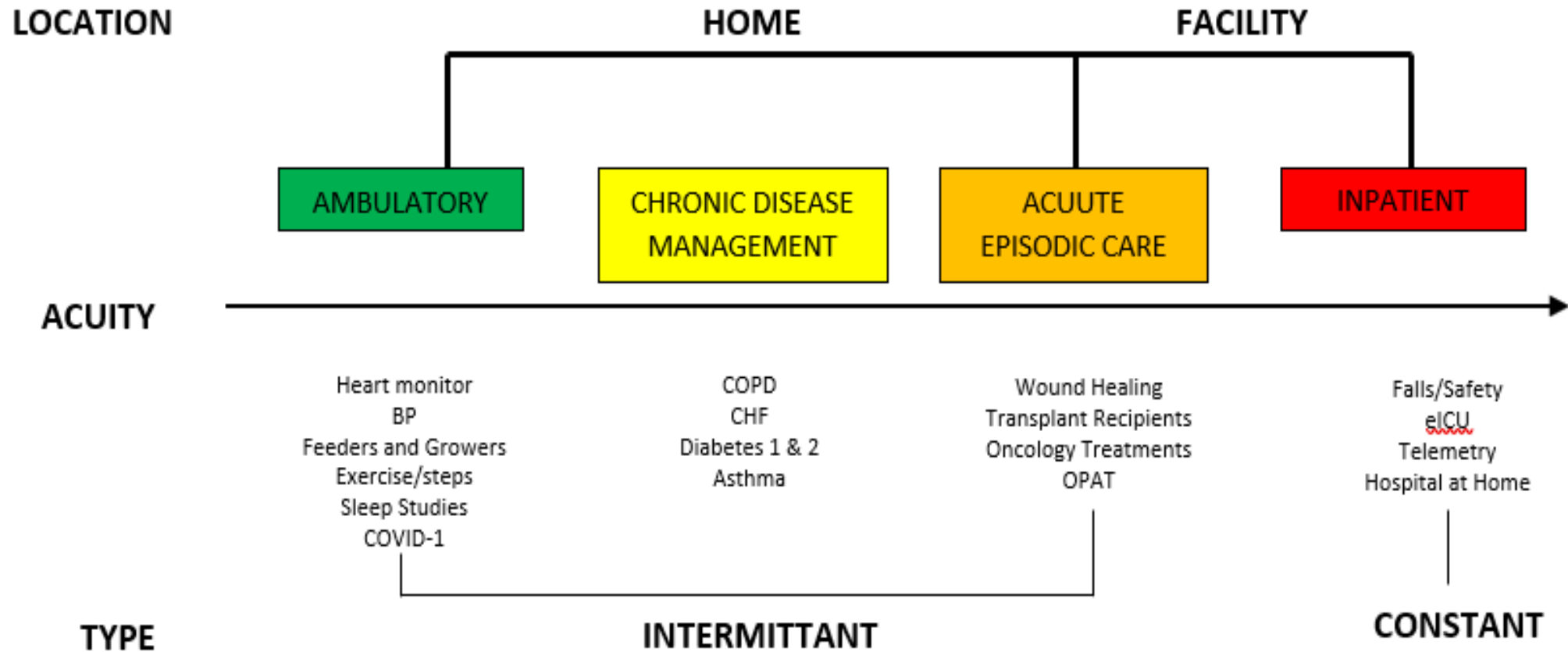
e-Visit



**e-MSO (Electronic
Medical Second
Opinion)**

Remote Monitoring type of telemedicine

(also known as self-monitoring or self-testing)



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Primary care

Chronic care

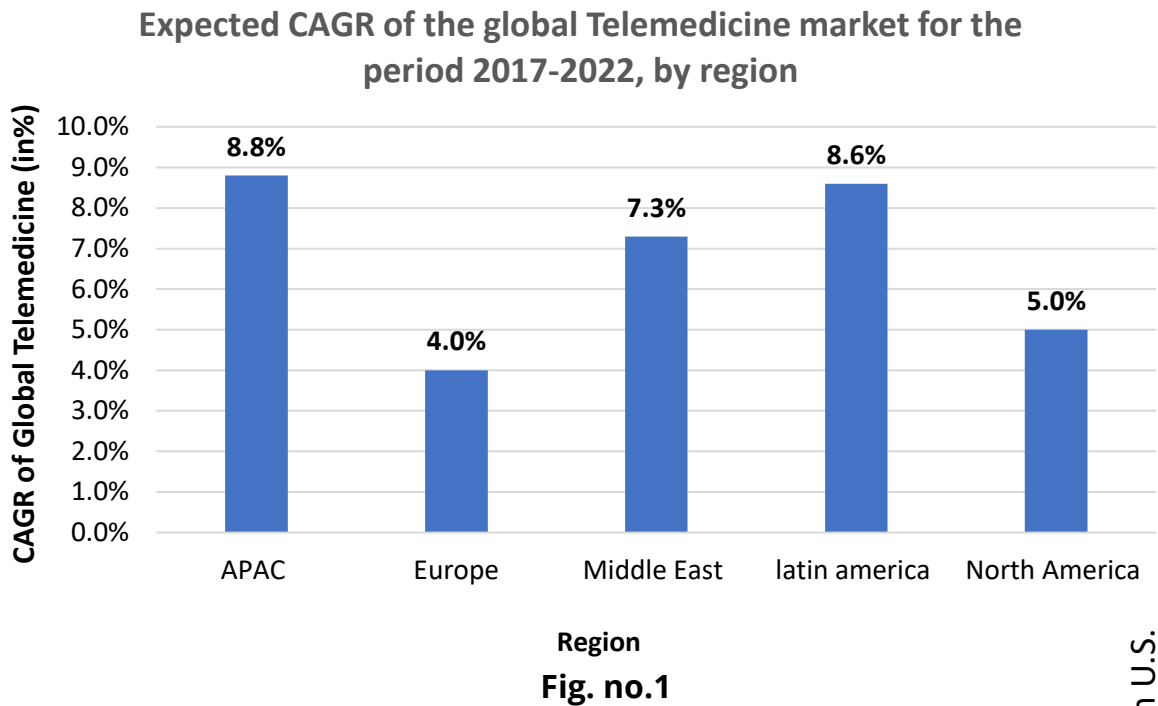
Acute episodic
care

Hospital at home

eICU: (Electronic
Intensive Care
Unit)

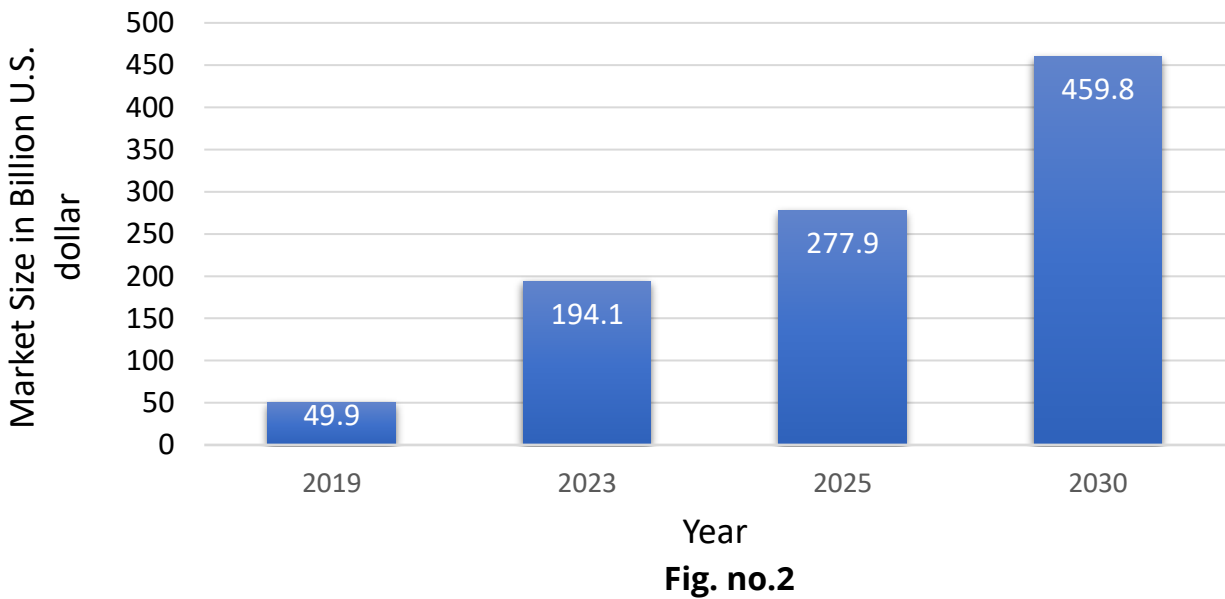
eSitter: (eye on
site)

3. Status of the nationally and internationally service providers



The fig. no.1 shows forecasted compound annual growth rate for the Telemedicine industry Between 2017 and 2022, in the APAC region is 8.8 percent, compared to an expected four percent for Europe.

The Fig. no.2 shows, Global Telemedicine Market was forecast to grow significantly between 2015 and 2020.



4. Opportunities & threat perceived by the online Healthcare service providers



Opportunities:

1. Capability to work from anywhere.
2. Reduced commute time.
3. Ability to provide care to rural areas or commute long distance.
4. Increase in job satisfaction.
5. Improve the timeliness of care for patients.
6. Customer segmentation analysis as per their spending behaviours and demands.
7. Identify competitors.
8. Market Opportunity Identification
9. Business Outcome

Threats

Misdiagnosis risk
Data security risk
Privacy protection risk



5. E-Healthcare in India & its Future

- In India, India is one of the top 10 countries in the telemedicine market in the world. Telemedicine is slowly but surely gaining traction.
- The latest study by Market Research Future (MRFR) has revealed that the telehealth market is expected to record a striking growth rate of 22.74 per cent from 2016 to 2024. By 2024, the market is anticipated to touch \$ 16,173.8 million.
- One of the oldest known Telecardiology systems for tele transmissions of ECGs was established in Gwalior , India in 1975 at GR medical college
- The first Ayurveda telemedicine centre was established in India in 2007 by Dr. partap Chauhan, director of jiva ayurveda

Telemedicine in India during Covid Pandemic

In India, the World Health Organization prescribed a doctor-to-population proportion of 1:1000, but the genuine proportion is simply 0.62:1000. With the beginning of COVID-19, this low doctor-to-population proportion turns out to be much really concerning.

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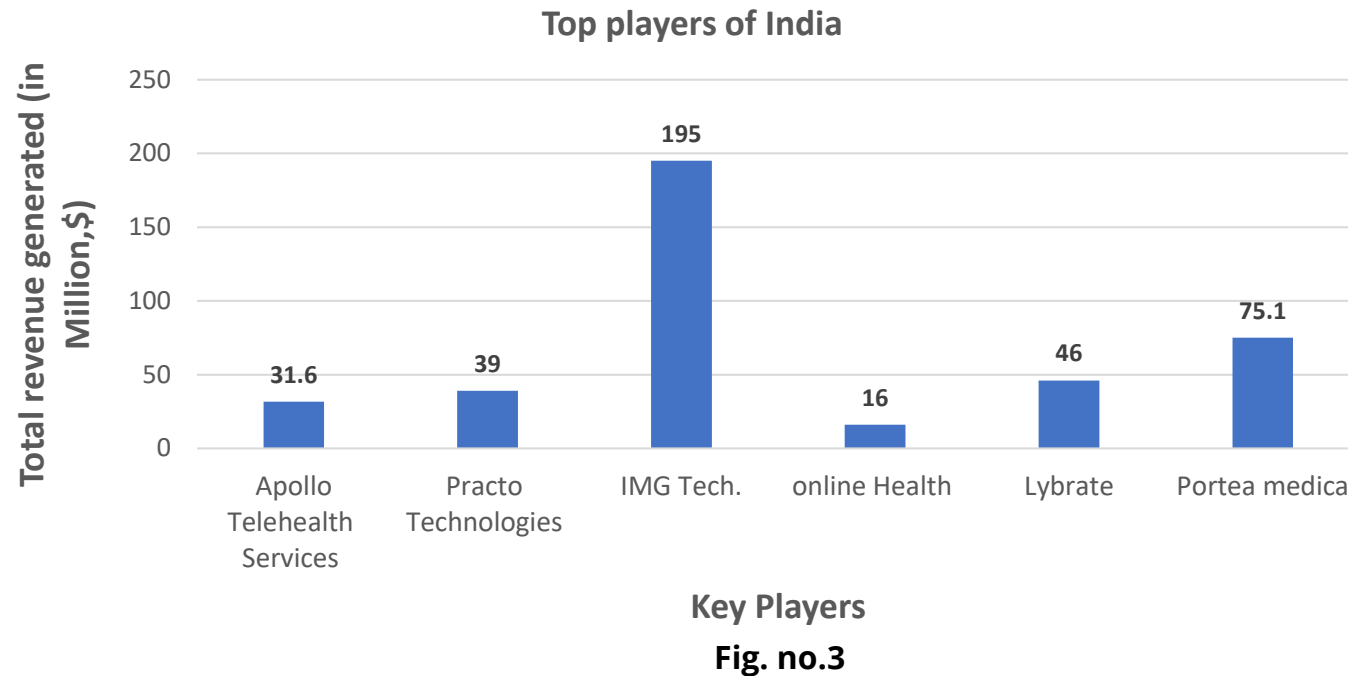


Fig. no. 3 shows that IMG tech. generated approx. 195 \$ million revenue rest other government telemedicine platforms generated less than \$100M revenue with portea medica have revenue of around 75 \$ million

Tele-specialization:

Tele- radiology

Tele- cardiology

Tele- pharmacy

Tele-dentistry

Tele-pathology

Tele-psychiatry

The government's telemedicine platform: e-Sanjeevani

eSanjeevani aims to expand access to health-care services that were severely limited during the outbreak.

6. The futures of E-Healthcare in India are as follows

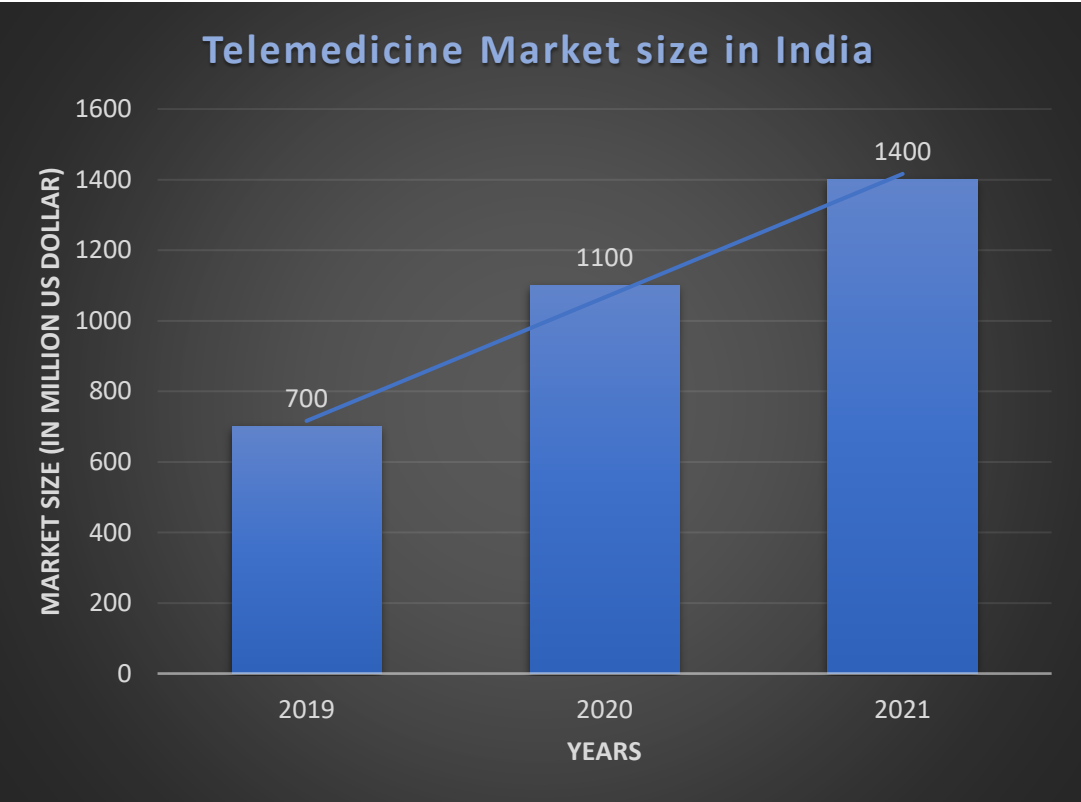


Fig. no.4

The Fig. no. 4 shows, market size for telemedicine market has been growing from 700 USD million in 2019 to 1400 USD Million in 2021 representing a huge growth in the market

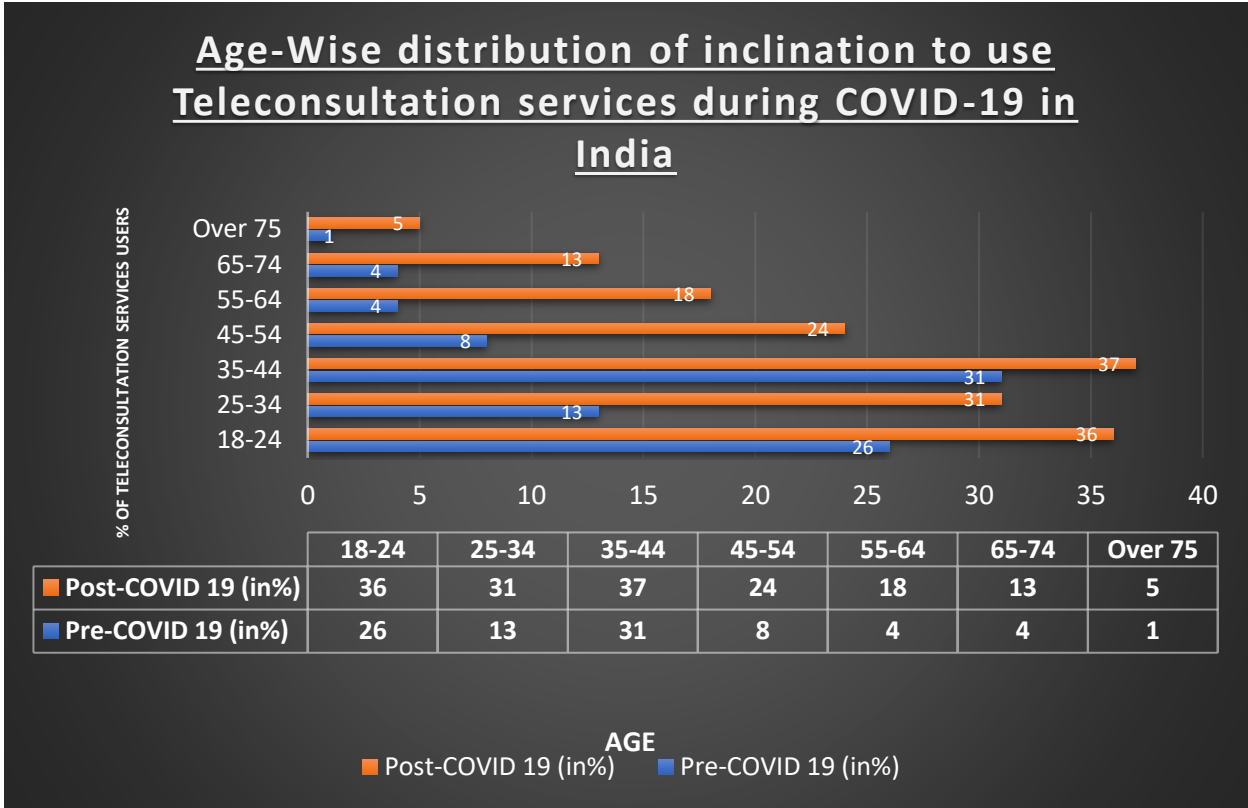
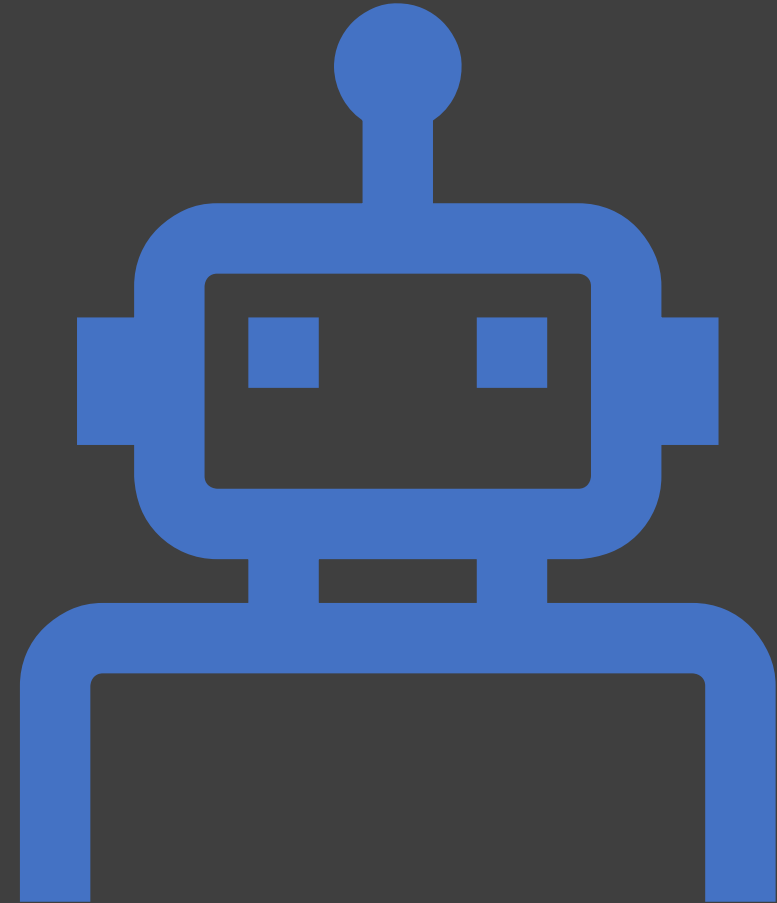


Fig. no.5

The Fig. no. 5 shows, during post covid the number of people using teleconsultation services have increase for all age group as compared to pre-covid situation

New digital tools and technologies are:

- Electronic Medical Records (EMRs)
- Artificial Intelligent (AI)
- E-hospital/e-clinic
- robotics
- Smart health monitors
- VR (Virtual Reality)
- Mobile health apps





Future of telemedicine department :



Robotic



Remote surgery



Live monitoring via cell phone

An aerial photograph of a multi-lane highway bridge spanning a body of water. The bridge has several lanes in each direction, with white lane markings. Several vehicles, including cars and trucks, are visible on the bridge. The water is a deep teal color with visible ripples. The text "THANK YOU" is overlaid in the center of the image, with a white wavy line underneath it.

THANK YOU