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Computer Based Medical Consults- An Observational Study

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ABSTRACT:
BACKGROUND- Computer based medical consult are growing across the world rapidly due to the COVID-19 pandemic. A computer-based expert system designed to support doctors in making clinical decisions on the best care for patients with infections. Telemedicine is contributing significantly to healthcare during the pandemic, and it is being used in a number of ways.
AIM: To classify a telecommunication medicine instrument that can be used to conduct technology-based patient consultations.
METHOD: An observational study was carried out to know the efficacy of computer based medical consults pre and post covid. 102 physicians and patients were involved in study. Then evaluated the pre and post covid use of computer-based consult and modes of communication and feedback was obtained.
DATA ANALYSIS PLAN AND METHOD: Data was recorded in excel word sheet.
Data analysis was performed in statistical software, INSTAT.
RESULT: 62 physicians out of 102 were using telecommunication.46 physicians were finding computer based medical consult efficient and satisfactory with only 15 patients were satisfied with the computer based medical consult.
CONCLUSION: The pandemic necessitates a greater emphasis on the personal significance and effectiveness of computer-assisted medical consultations.
KEYWORDS: INSTAT, LAN, WAN, COVID-19

INTRODUCTION

Computer based medical consult are growing across the world rapidly due to the COVID-19 pandemic. A computer-based expert system designed to support doctors in making clinical decisions on the best care for patients with infections.[1] Any telecommunication medicine tool suitable for conducting technology-based patient consultations, such as telephone, video, devices connected over LAN, WAN, Internet, mobile or landline phones, Chat Platforms like WhatsApp, Facebook Messenger, or Mobile App, or internet-based digital platforms for telemedicine or data transmission systems like Skype/email,etc.

Medical health care services are delivered, with distance being a vital factor, by all medical health care practitioners using knowledge and communication technology for the sharing of valid information for diagnosis, treatment, and prevention of disease and trauma, accidents, for study and evaluation, assessment, and for medical health care professionals' continuing education. One of the major benefits of telemedicine is that it can save money and time for patients, particularly those in rural areas, because they don't have to travel long distances for consultation and care.

This form of computer-based medical consultation would benefit both society and physicians. Telecommunication medicine can be an ideal option for not only providing timely and quicker access, but also for reducing costs. It will also cut down on the financial costs of travel. It also lessens

the burden/impact on family and caregivers, as well as social factors. Computer-based medical consultations are useful in situations where the presence of a patient (medical professional) is not needed, such as for daily updates, routine check-ups, or continuous vitals monitoring. There is a better chance of keeping track of documents, proforma, assessment sheets, and documentation by using a computer-based medical consultation. Doctors should keep track of their paperwork in a logical order, which aids in data management. Documentation, on the other hand, increases both the physician's and the patient's legal defence. Telecommunication medical consultation ensures the protection of patients as well as health care staff, particularly in situations where infectious diseases are a concern. There are a variety of tools that can be used in telemedicine to assist patients in adhering to their drug regimens and managing their illnesses more effectively. Computer-based medical consults can be useful in disasters and pandemic situations where medical facilities are not physically available. Information can be moved between geographically separated locations thanks to telecommunication infrastructures. The required capabilities and available infrastructures decide which direction a given telemedicine programme can take. Communication Mode: Telemedicine chat programme based on text (specialized telemedicine smartphone Apps, Websites, other internet-based systems etc.) Platforms for general messaging, texting, and chatting (WhatsApp, Google Hangouts, Facebook Messenger etc.) Asynchronous (email, fax, and so on) 4.

Only telecommunication services are keeping the economic engines running during the covid-19 pandemic lockdown. Not only the economy, but also social sectors such as health and education, are thriving. The services sector accounts for over 54% of India's GDP. Both of them are currently unavailable. Travel, hotel, and a few other services, for example, are completely unavailable. However, whatever percentage of the services sector is operational, in my estimation 30-35 percent, it is only due to the telecom infrastructure that such a large scale of economic activity is still possible, despite a lockdown that allows for an extremely urgent physical situation.
Telecommunications has been directly contributing about 6% of GDP, and this has increased by 5-6 times since the lockdown, which is enormous. At the moment, it serves as a by-pass or backup infrastructure for organisations, including governments, that have implemented digital activities. 5

NEED FOR STUDY

Computer-based medical consult will help the patients by not getting exposed to external environment and therefore, Bypassing the chances of hospital acquired infections. Computer based medical consult will play important role for physician as well as patients by not demanding the physical presence of both rather virtual. Computer based medical consult will also help to reduce the burden of travelling. Therefore, the need felt for study.

AIM:
To classify a telecommunication medicine instrument that can be used to conduct technology-based patient consultations

OBJECTIVES:
1. To evaluate pre and post covid
2. To evaluate the mode of communication
3. To obtain feedback form with regards to modes of communication

HYPOTHESIS
ALTERNATE HYPOTHESIS: There is efficacy of computer based medical consult
NULL HYPOTHESIS: Is there efficacy of computer based medical consult

MATERIALS AND METHODOLOGY:

1. The research was conducted as an observational study.
2.Randomized sampling is the second sampling method.
3. Number of participants: 102 physicians and patients
4. Nagpur is the fourth environment.

INCLUSION CRITERIA
Age- 30 to 55 years
Both Gender
Physician- 102
Patients - 102
Willing for participation

EXCLUSION CRITERIA
Not able to use digital device
Patients who are not able to communicate through digital means
Surgery
In case of Immunization
Patients condition demanding hospital condition

OPERATIONAL DEFINITION:
A computer-based expert system that assists doctors in making clinical decisions about which care is best for patients with infections.

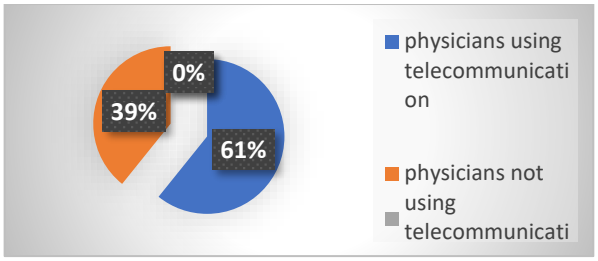
OUTCOMES MEASURES:
- Efficacy of computer based medical consult- pre and post covid
- Feedback of application of telecommunication for medical consultation

GENERAL PROCEDURE
An observational study was conducted to know the efficacy of computer based medical consult. To carry out the study protocol approval was taken from Institution ethical committee and permission to carry out the telecommunication consult between physician and patients. All the procedure of study was explained and proforma was filled by patients and physician. Demographic data was taken. Each patient has given 15 mins to fill the proforma after completion of telecommunication consult. Physician was also asked for the same to fill the proforma. Data was collected and analysed

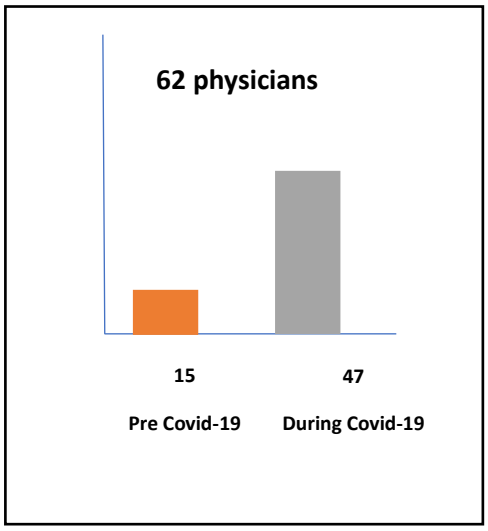
DATA ANALYSIS PLAN & METHOD- Data was recorded in excel word sheet.
Data analysis was performed in statistical software, INSTAT.
The effectiveness of a machine based on medical consultation was expressed as a percentage with a 95% confidence interval.
Statistical significance was described as a P value of less than 0.05.
The paired T test was used.

RESULT:
-62 physicians out of 102 were using telecommunication
-46% physicians were finding computer based medical consult efficient and satisfactory with only 15% patients were satisfied with the computer based medical consult
- Computer based rehabilitation was found to be efficient for most of the patients with medical conditions not mandatorily demanding physical attention of physician.

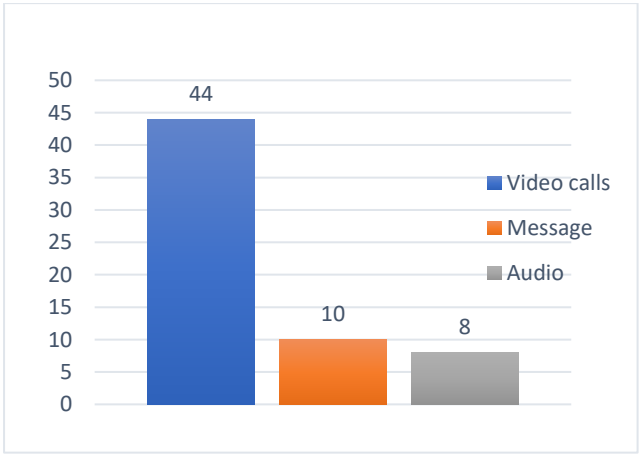
1.Pie Chart: Use of Computer based medical consult by Physician



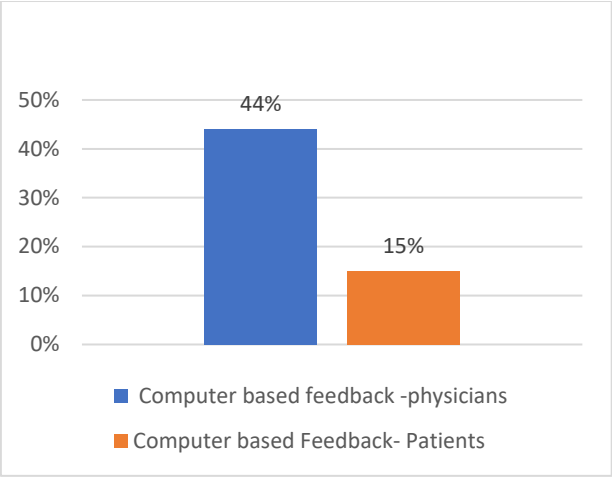
2.Bar diagram shows: Pre Covid19 and Post covid use of computer based medical consult by physicians



3.Bar diagram shows: Modes of communication



4.Physicians and patients Feedback



DISCUSSION:

- Due to Covid-19 pandemic effect, telecommunication increases the network and impact for both physicians and patients as well.
- Out of 102 sample size, it was observed that 62 (61%) utilized telecommunication and 40 (39%) didn't chose telecommunication for medical consult. 40 physicians found it difficult to understand technology application required for computer based medical consult as well as thought physical mode more reliable.
- 15 physicians out of 62 were using telecommunication even before covid-19 pandemic and other 47 physicians started using telecommunication during the covid19 pandemic situation as finding it difficult to maintain routine follow ups, patient record, etc. via physical mode.
- 44% physicians using telecommunications used video call as a mode, 10% used variety of options such as WhatsApp, messenger, text messages etc. for asking patient's wellbeing. Remaining 8% used audio mode.
- 46% physicians were finding computer based medical consult efficient and satisfactory with only 15% patients were satisfied with the computer based medical consult. Feedback from physicians as well as patients was taken via google form. Patients were asked to fill in feedback form soon as the computer based medical consult ends.
- Before Covid-19 very few did apply, computer based medical consult, it was observed in recent conditions that there is sudden increase in use of artificial intelligence which has helped as physical contact is bypassed thereby reducing infection transmission & fulfilling the patient medical consult of physician's guidance.
- Due to socio distancing criteria and unavoidable lockdown some patients faced the problems. Due to lack of facilities, unavailability of doctors, travelling cost, permission from Health care professionals was all suffered by patients in particular areas.
- Computer based medical consult helps patients and physicians to know their health status and regular check-up as well by video calls, what sup and other modes of communications.

• Since the COVID-19 pandemic exposed people to physical inactivity, psychological stress, exhaustion, occupational stress, anxiety, and stigma, good contact at work, in families and communities, and among friends is critical.

- To save people's lives from the COVID-19 pandemic, health services have stepped up response steps such as finding out the condition, isolating, assessing, testing, investigating, treating, and tracing transmission. The vast volumes of knowledge about COVID-19.6 control the media and social systems in Covid 19.

- Combating COVID-19 necessitates a high level of preparedness and response, which involves effective communication as a key strategy. Communication is the process of conveying or sharing information through speech, writing, or some other means. During a pandemic, contact encompasses far more than just sending messages to people.

- In India, the default caller tune was changed from "tring-tring" to "cough-cough," accompanied by a warning about Coronavirus. This is a 30-second multilingual and understandable audio clip designed to raise public awareness. [8] This is an example of information and education communication (IEC) methods in action. Other examples of IEC include paintings with awareness messages on walls, sidewalks, and other popular locations, photographs on social media, memes, and newspaper clips.

- The main modes of avoidance are coughing and sneezing into one's hand, hand washing, social distancing, and finding medical attention if sick. An open conversation by a well-known person aims to target behaviour change communication (BCC) during a pandemic. The government has enlisted the help of actor Amitabh Bachchan to encourage positive COVID-19 conduct.

- Telemedicine is moving up into the spotlight in the COVID-19 epidemic, the healthcare system, and helping healthcare provider organisations and caregivers better adapt to the needs of Patients.
- Telemedicine is making a big difference in healthcare during the pandemic, and it's being used in a lot of different ways. However, when it comes to treating patients during a pandemic, telehealth systems have certain limitations.[8]

- Computer-based medical consultations serve as a link between people, doctors, and health systems, allowing everyone, particularly symptomatic patients, to stay at home and interact with physicians through virtual channels, thus reducing the virus's spread to large populations and medical personnel.

CONCLUSION

The Covid-19 Pandemic necessitates a greater emphasis on the personal importance and effectiveness of computer-assisted medical consultations. It is important at all levels to achieve this holistic structure for effectiveness and integrated telecommunications for COVID-19, which is technology friendly. The capacity of a doctor and other health care workers to collect information to promote accurate diagnosis, provide proper advice for isolation and quarantine patients, provide clinical advice, and establish relationships with patients is also needed for success in containing the COVID-19 pandemic. People should learn about COVID-19 from reputable sources and, more importantly, take practical steps in accordance with government guidance in order to make preparations and protect vulnerable populations.

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