Summer Training

at

Medanta-The Medicity, Gurugram

(May 3rd, 2021 to 26th June, 2021)

A study on Doctors' Perspective on Efficacy of Teleconsultation during COVID 19 in Hospital

&

A study on IPSG Goal 6 Fall Prevention in Hospital (Education)

Under the guidance of

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MBA Hospital and Health Management (2020-2022)

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Sincerely,

Rachita Gupta

Roll no. 1168

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1. Abbreviations used in the report

Abbreviations	Full form
IPSG	International Patient Safety Goals
IPD	Inpatient Department
OPD	Outpatient Department
TPA	Third Party Administration
TAT	Turn Around Time
HIS	Hospital Information System
RMP	Registered Medical Practitioner
HIPAA	Health Insurance Portability and Accountability Act
EMR	Electronic Medical Records
FRA	Fall Risk Assessment

2. Overview of Hospital

Medanta the Medicity is a multi-superspecialty hospital that combines equipment, technology, training, education, and medical intelligence to revolutionise healthcare delivery standards. It is one of India's most comprehensive multi-specialty tertiary care medical treatment programmes.

With a $350 million investment, Medanta the Medicity hopes to establish a world-class education and training centre with the support of the government, incredible infrastructure, cutting-edge technology, and Dr. Naresh Trehan, Chairman and Managing Director of Global Health Private Limited (GHPL) (GHPL).

Medanta is a new global healthcare destination that spans 43 acres in Gurgaon, New Delhi's National Capital Region.

Medicity is a world-class medical hospital with 1250 beds. The aim of Medicity is to bring world healthcare delivery standards to India at accessible pricing, solidifying India's position as a global leader in healthcare, medical research, and high-end medical diagnostics.

2.1 Specialties covered

Medanta houses 10 Institutes, 8 Divisions, and 11 Departments that provide integrated primary, intermediate, and tertiary care services encompassing 29 super specialities and high-end services covering every element of human health.

2.2 Institutes

1. The Medanta Heart Institute.
2. The Institute of Neurosciences.
3. The Bone & Joint Institute.
4. The Kidney & Urology Institute.
5. The Cancer Institute.

6. The Institute of Digestive &Hepatobiliary Sciences.
7. The Institute of Minimally Invasive Surgeries.
8. The Institute of Transplant & Regenerative Medicine.
9. The Institute of Critical Care &Anaesthesiology.
10. The Vattikuti Institute of Robotic Surgery.

2.3 Departments

The highly technological equipment of modern hospitals can be seen in the resuscitation room bed following trauma intervention. Hospitals are divided into departments and inpatient wards. A hospital may offer distribution of health care such as an emergency department or specialised trauma centre, a burn unit, surgery, or urgent care. More specialised units, such as the following, may then be added to the mix:

- Emergency department
- Cardiac Sciences
- Critical care unit
- Neonatal intensive care unit
- Neurosciences
- Pulmonology
- Oncology
- Obstetrics and gynaecology, maternity ward
- Ophthalmology
- Orthopaedics
- E.N.T
- Gastroenterology
- General surgery
- Dental
- Physiotherapy and Rehabilitation
- Radiology

There's also the nursing department, which is frequently led by the Nursing Superintendent. This department is in charge of overseeing the hospital's professional nursing practise, research, and policy. Every aspect of a hospital is influenced by nursing.

A dispensary or pharmacy, pathology, and radiography are all common support units.

2.4 Divisions

1. Division of Endocrinology & Diabetes.
2. Division of GI & Bariatric Surgery.
3. Division of ENT & Head Neck Surgery.
4. Division of Peripheral Vascular & Endovascular Sciences.
5. Division of Gynaecology & Gynaec-oncology.
6. Medanta Breast Services.
7. Division of Plastic, Aesthetic and Reconstructive Surgery.
8. Division of Radiology & Nuclear Medicine

2.5 What makes Medanta the Medicity special?

Medanta aspires to functionally integrate medical treatment, teaching, and research and development facilities under one roof and under one supervision. It also proposes to use scientific study to investigate the possibilities of blending traditional and alternative medicine knowledge with modern medicine.

Medanta the Medicity is founded by Dr. Naresh Trehan, one of the world's leading medical visionaries. Dr. Trehan has received several national and international accolades for his outstanding contributions to the country, including the highest national honours, the Padma Shri and Padma Bhushan.

Dr. Trehan, who has served as the personal surgeon of India's President since 1991 and was previously the President of the International Society for Minimally Invasive Cardiac Surgery, is among the famous figures in medical and non-medical sectors who have joined the Medicity team (ISMIC).

2.6 Infrastructure

Medanta-The Medicity is a 43-acre medical campus with 45 operating rooms, 1250 beds, including over 350 critical care beds.

2.7 Affiliations

Medanta the Medicity has formed a business partnership with Duke Medicine with the goal of creating a platform for high-end research and clinical trials. The Medanta Duke Research Institute (MDRI) is a world-class early-phase medical research organisation at Medanta the Medicity.

MDRI promises to provide a favourable atmosphere for investigating traditional medicine technology in conjunction with modern medicine aids for research and development in the areas of healthcare and health recovery.

It is planned to be a 60-bed hospital within Medanta's facilities, with a floor space of 27,000 sq. ft. MDRI will conduct immediate early phase clinical investigations in three countries with various populations to unlock its potential. • The findings of such a study will be crucial for all subsequent studies that have the potential to change the face of healthcare around the world.

2.8 Accreditation

- Joint Commission International

- National Accreditation Board for Hospitals
- National Accreditation Board for Testing and Calibration Laboratories.

2.9 Mission

"Our mission is to deliver world-class health care services by creating institutes of excellence in integrated medical care, teaching, and research. We aspire to create an ethical and safe environment to treat all with respect and dignity."

2.10 Vision

"The institute is governed under principles of providing affordable medical services to patients with care, compassion, and commitment"

2.11 Founder/ CEO - Dr. Naresh Trehan

Dr. Naresh Trehan is India's foremost cardiovascular and cardiothoracic surgeon and the Chairman and Managing Director of Medanta-The Medicity.

2.12 My Journey

• With permission from Human Resources Department, a schedule was created which I have followed in order to observe and learn the functioning of all the departments of the hospital. This task was not easy due to variety of departments at Medanta the Medicity, and a significant amount of time would have to be invested in each department in order to learn as much information as possible.

• After I was posted in different departments to get maximum exposure and learning. I was under mentors in hospital who were HODs of respective departments and they guided me how to go about it.

2.13 SWOT Analysis of Medanta- The Medicity

Strengths	**Weaknesses**
• Lower delivery cost • World-class facilities • India helps compare and strategy planning for any business initiative	• Increasing costs of curative medical treatments; • Limited employee health benefits; and a small number of high-quality medical institutions
Opportunities	**Threats**
• With total revenues of $1.668 trillion, the healthcare business is one of the globe's largest and upcoming budding industries. • Medical tourism will be a key source of foreign exchange in India. • Robotics and advanced technologies will be a future bane	• Inflation. • Medico-legal jurisdiction. • Country specific restriction.

(Part A)

Observational Learnings at Medanta Hospital

3. PART A- Observational Learnings at Medanta Hospital:

I joined Medanta hospital on 3rd May 2021, I was deployed under PCS department. Under the department there are several sub-departments. I got the opportunity to work in some of the departments, namely as follows:

Fig 1: Showing all departments where I have worked in Medanta Hospital

3.1 Admissions

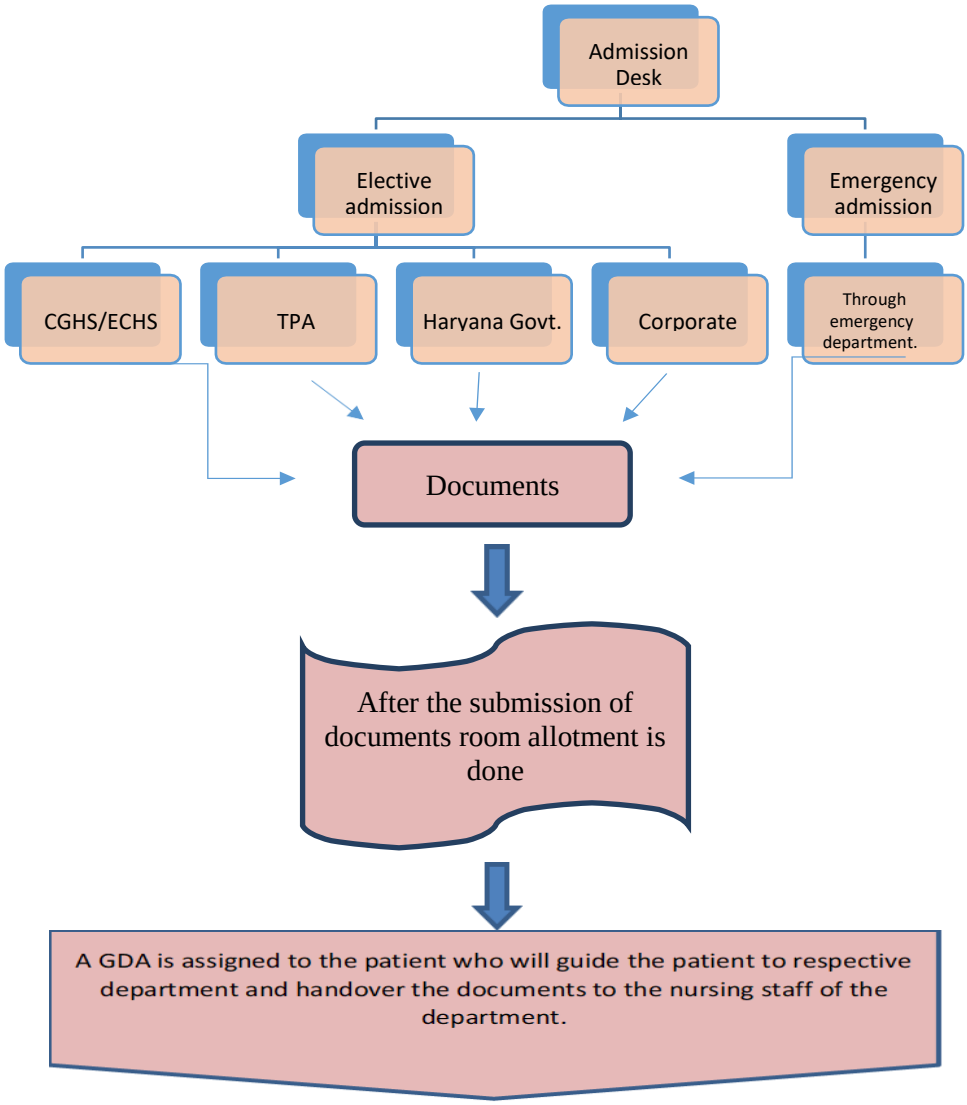


Fig 2: Showing Admission procedure in Medanta Hospital

Documents required for CGHS and ECHS:

A. CGHS Documentation: For planned admission

- Permission letter from CGHS.
- Aadhar card
- Request for admission form.
- CGHS Card.
- Face- sheet-This document contains all the details of the patients.
- Feedback form.
- Bar code.
- Wrist band.

B. ECHS Documentation:

- Referral letter.
- ECHS card.
- If the treatment will cost above 5000 rs, then a form "APPENDIX A" has to be filled by the patient/attendant.
- Supporting documents- Doctor's prescription, Estimation of the treatment.
- The form has to be signed by: Officer I/C, from RR hospital by service specialist, from Base hospital by a senior executive medical officer, and ECHS clinic (Parent clinic).
- For liver or kidney transplant- A separate document called an organ transplantation letter has to be signed by MDECHS.

C. Documentation for the Haryana government employee.

Table 1: showing Documentation for the Haryana government employee

For working patients.	**For pensioner patient.**
Identification card	PPO order
Aadhar card	Aadhar card
PAN card	PAN card

If the patient is dependent then a dependent affidavit	Disease or oncology notes from the treating doctor.
Dependent's aadhar card	Pension book (latest or of last three months)

- Under the panel of the Haryana government, 6 life-threatening emergencies are covered i.e. heart arrest, cerebral haemorrhage, coma, electric shock, and cancer in the third and fourth stages.

- For an employee of the Haryana government, verification of the patient is done through the portal of the Haryana government.

D. Emergency admission

- Request for admission (RFA) is generated in the emergency department, as this department is dedicated for covid, due to which on the admission desk the RFA has to be prepared manually.
- CGHS card, ECHS card, TPA Documents.
- Face-sheet
- Feedback form
- Bar code
- Wrist band

3.2 Health and Wellness Centre

This preventive health check has been designed to assess your overall health and wellness status. This department provides different health packages under different names. The patient can either choose themselves or their treating physician can suggest which package would be more beneficial for them.

Different health packages contain different tests and procedure. There are some pre-requisites that a patient has to follow. Pre-requisites are as follows: -

Patient has to visit it different departments for test. The patients are requested to report back to counter no-1 after each test.

There is no set sequence of test, so the staff will direct the patients for the next procedure, depending on the factors such as waiting time, or patient's readiness for next test. For e.g. for ultrasound abdomen, a full bladder and four hours of prior fasting required. And STEC/TMT/ECHO/DSE, is advised by the physician or the cardiologist on the basis of past history, ECG and vitals of the patient.

PP Blood sugar sample has to be given exactly after two hours, from the time patient has finished the breakfast. If the patient is required to give PP blood sugar sample, they should not eat or drink anything in these two hours, except plain water.

Ultrasound abdomen has to be done on a four hour fasting, and full bladder with high urine pressure. Patients are requested to not pass urine if they have to get ultrasound done.

If the patient is diabetic, they are requested to take their medication with breakfast.

Patients are requested to avoid BP/Hypertension medications till the stress ECG, TMT or ECHO test is done, unless advised by the physician.

Renal Doppler test requires 12 hours of fasting.

Patients are requested to submitting their file to counter no1 after all the tests are being done.

Several instructions related to collection of reports:

Same day after 5 pm: Basic, Post PTCA/CABG and diabetes basic packaged.

Next day after 11am: Whole body, years to life (except CT angio test if done next day, in which case the reports will be available 24 hours after test completion), hypertension and diabetic advance packages.

After 3 days: Pap smear for females.

3.1.1 Different health packages: Table 2

Medanta executive health **Package details**	**Medanta basic health check-up**	**Medanta diabetes basic package**	**Medanta post PTCA/ CABG/ Valve follow up package**	**Medanta healthy heart**	**Medanta hypertension check**	**Medanta diabetes advanced package**	**Medanta Whole body check up**	**Medanta years to life**
	Rs. 3800	**Rs. 5100**	**Rs. 5300**	**Rs. 6300**	**Rs. 9000**	**Rs. 11500**	**Rs.19000**	**Rs. 28000**

Blood CBC Complete hemogram	●	●	●	●	●	●	●	●
Blood group and antibody screening	●			●	●		●	●
Diabetes Blood sugar fasting post prandial Glycosylated haemoglobin	●	● ●	●	●	●	● ●	● ●	● ●

Kidney Serum urea Serum creatinine Serum Uric acid Serum Sodium Serum potassium Serum chloride Serum phosphorous Urine protein Creatinine ratio.	● ● ●	● ● ● ● ● ●	● ● ● ● ●	● ● ●	● ● ● ● ●	● ● ● ● ● ● ●	● ● ● ● ●	● ● ● ● ●
Infection screening								
Urine Analysis HbS Ag HIV test Anti HCV Stool analysis	●	●	●	●	●	●	● ● ● ● ●	● ● ● ● ●

Heart health Lipid profile High sensitive C-reactive protein Homocysteine Prothrombin time Creatinine phosphokinase	●	●	● ● ●	●	●	●	● ● ●	● ● ●
Nutrition health Vitamin D3 Vitamin B12 Serum calcium		●				●	● ●	● ●
Liver health								

SGPT Liver function test	●	●	●	●	●	●	●	●
Hormone health Thyroid stimulating hormone test Testosterone		●			●	●	● ●	● ●
Cancer screening Prostate specific antigen Pap smear.							● ●	● ●

Heart health ECG Exercise stress ECG (TMT)/ Transthoracic Echo Stress ECHO/ DSE/ TMT +ECHO CT Coronary angiogram	● ●

Ambulatory BP monitoring Pulse wave analysis.					●			
Lung health Chest X-ray Pulmonary function test.	●		●	●	●	●	● ●	● ●
Stroke screening Carotid MRI				●			●	●

General health						●	●	●
Fibro scan		●		●		●		
Body Composition analysis								
Waist-hip Circumference Ratio	●							
Ultrasound Whole abdomen						●		
Ultrasound							●	●
Fundus vision test								
Neuropathy Assessment								

						●		
Cancer screening Mammography							●	●
Bone and joint Dexa for fat analysis Dexa whole body						●	● ●	● ●

Physician	●				●		●	●
Gynaecologist							●	●
				●			●	●
Dentist and dental examination						●		
Ophthalmologist and eye examination				●			●	●
ENT							●	●
Cardiologist							●	●
Urologist			●	●	●	●		
Endocrinologist							●	●
		●						
, Diabetes educator and podiatrist								
Musculo-skeletal examination.								
							●	●

A. Basic Health Check by Medanta

The Medanta basic health check is a comprehensive health screening package that includes recognised medical knowledge, examination, testing, and results for a wide range of diagnostic tests, including basic blood, heart, kidney, and liver tests, as well as general health monitoring.

B. Medanta Post PTCA/ CABG/ Valve follow up

Medanta follows up after a PTCA, CABG, or valve replacement.
All heart screening and follow-up tests are included in this package, as well as the cardiologists' knowledge.

C. Medanta diabetes basic package

The Medanta diabetic basic package includes basic blood tests to check your heart, liver, hormones, and overall health, as well as blood sugar screening and diagnostic testing. We examine your diabetic health and provide consultations with endocrinologists, podiatrists, and a diabetes educator using a multidisciplinary approach.
They collaborate to track your blood sugar levels and present you with a personalised diet and exercise plan. Patients with kidney or cardiovascular issues, on the other hand, may require the advanced package, which includes a few more tests to ensure a complete health assessment.

D. Medanta healthy heart check

Basic health screenings and diagnostic tests are included, as well as consultations with cardiologists from Medanta's heart disease centre of excellence. This package includes comprehensive assessments of an individual's risk of having a cardiac issue, as well as a customised diet and lifestyle change plan to keep your heart healthy at all times.

E. Medanta Hypertension check

The Medanta hypertension check-up is made up of a group of cardiologists who collaborate to provide a multidisciplinary wellness solution for detecting, controlling, and managing blood pressure through a variety of diagnostic services such as ambulatory blood pressure monitoring and non-invasive haemodynamic assessment.

F. Medanta executive whole body check

The Medanta executive complete body check is a custom-made bundle that includes a variety of tests and diagnostics to fulfil the needs of both men and women. Basic blood tests, as well as consultation with experts, are included in the package, which pay special attention to your heart, kidney, liver, cancer screening, and bone health.

G. Medanta years to life

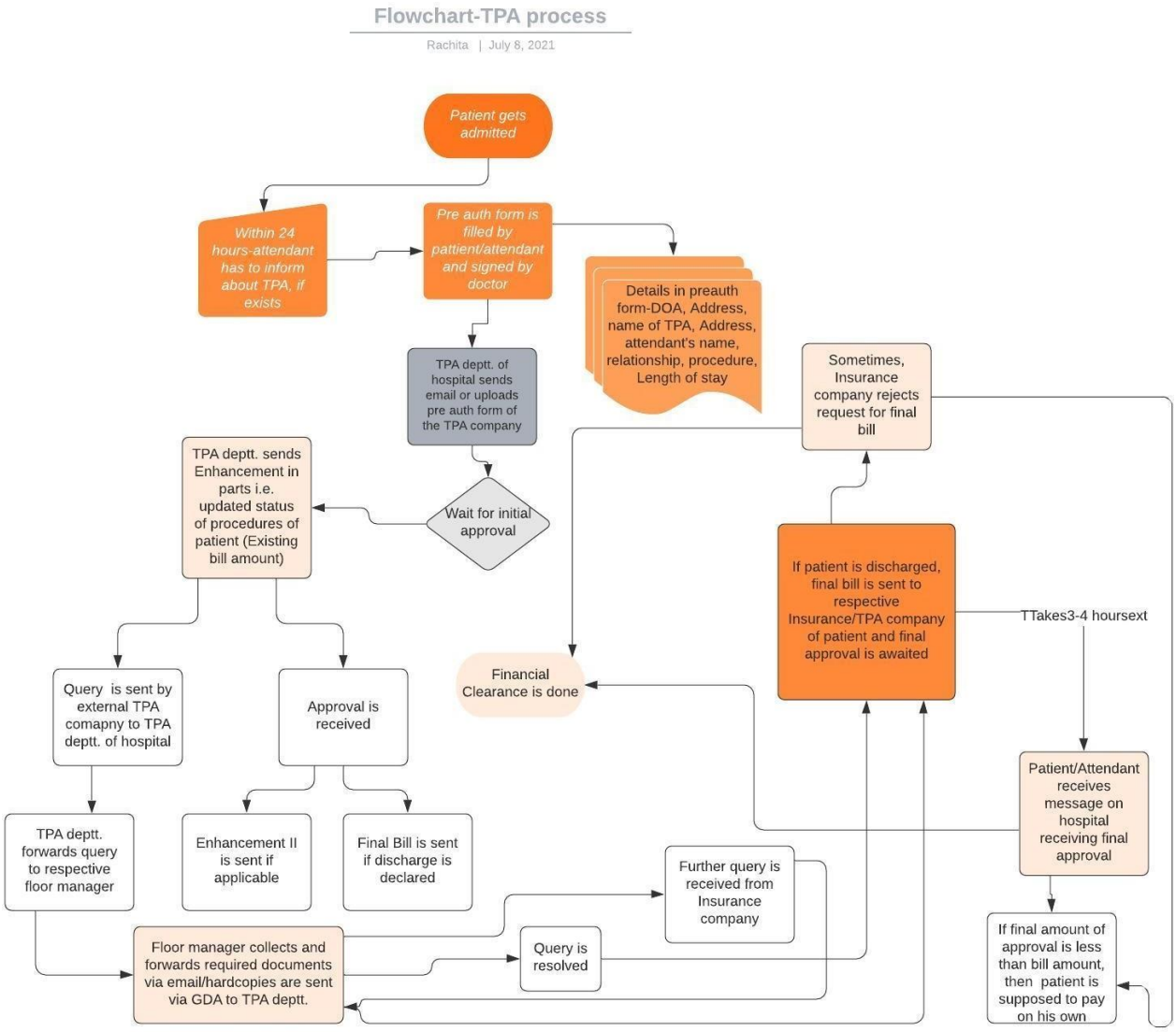
This package includes the entire range of check-ups and consultations included in the Medanta executive whole body check, as well as Medanta's state-of-the-art tests like coronary CT angiogram, a non-invasive functional test to diagnose coronary artery disease, and calcium scoring, a special X-ray test to keep track of plaque build-up on the heart's artery walls.

3.3 TPA Department

A. Documents required for TPA Process:

- Pre Authorization Form
- Details of TPA/Insurance
- ID Card of TPA/Insurance
- Admission form
- Request For Admission (RFA)
- Face Sheet

3.3.1. TPA Process flowchart (Fig 3: TPA Process flowchart)



3.4 Vaccination Drive

I was a part of vaccination drive at three separate locations for a week :

A. **Drive thru Vaccination at Medanta**
B. **In Medanta Hospital premises**
C. **Outreach vaccination camp at Air India Office- near Airport**

3.4.1. At Drive thru vaccination in Medanta

Fig 4: Process flow of vaccination

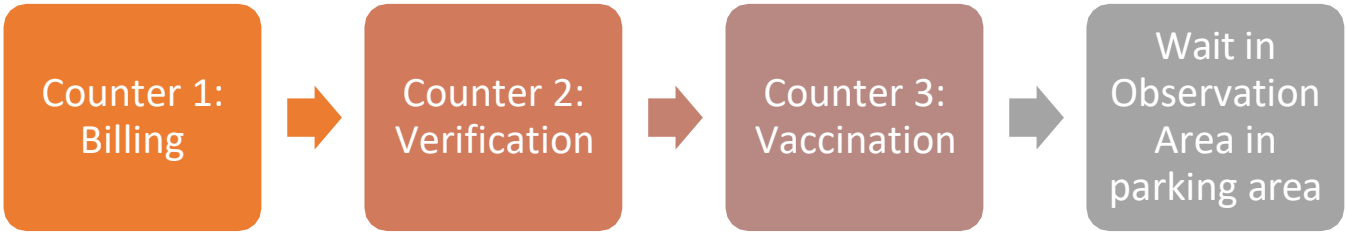
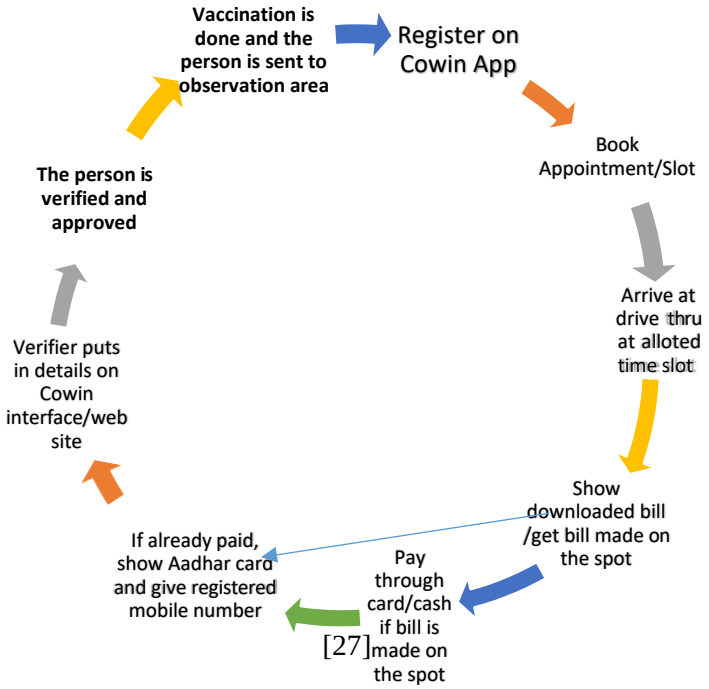


Fig 5: Steps for getting registered and getting vaccinated



Note: Aadhar Card is either uploaded or Aadhar number has to be written on the spot by data operator and after verification, it is approved. Then the person can move ahead for vaccination.

3.4.2. In Medanta Hospital premises

Fig 6: Process flow of vaccination

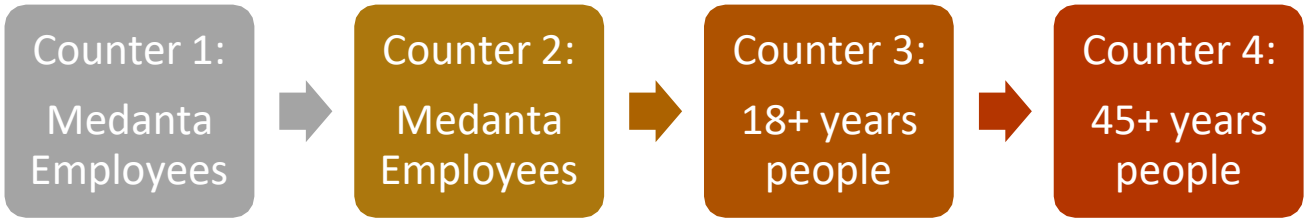
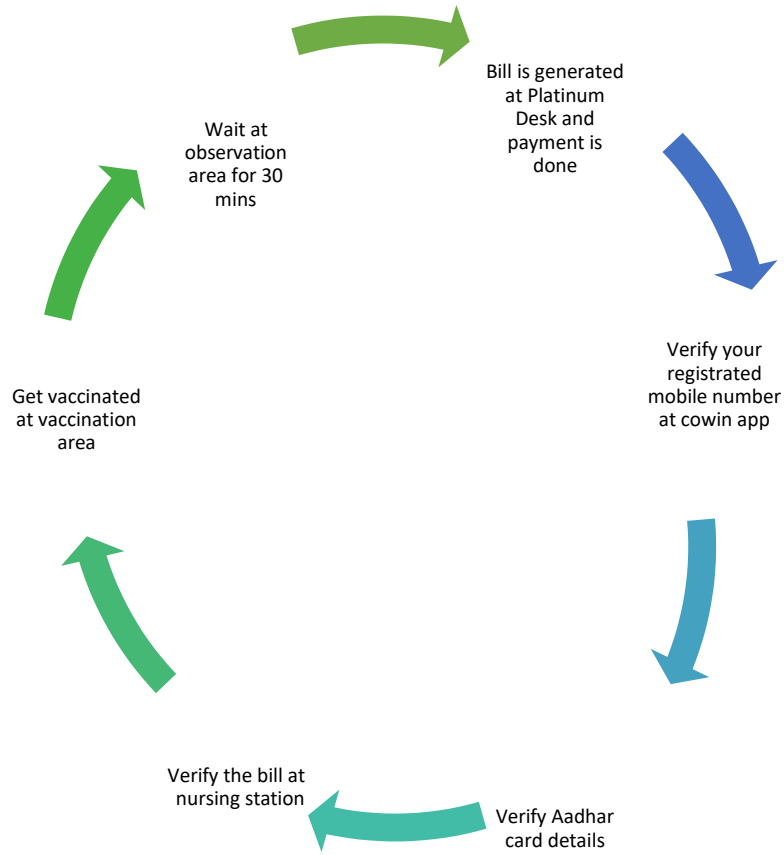


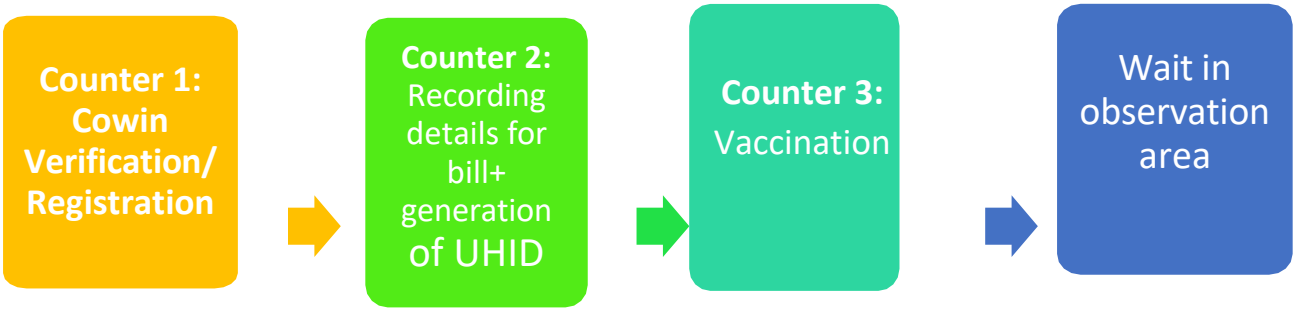
Fig 7: Steps for getting registered and getting vaccinated



3.4.3. Outreach vaccination camp at Air India Office

The vaccination was conducted by Air India at their office premises and it was done on credit billing. The time consumed was less as only bill details were taken in excel and bill was made at hospital for record. There was no cash/card payment which saved majority of the time.

Fig 8: Process flow of vaccination



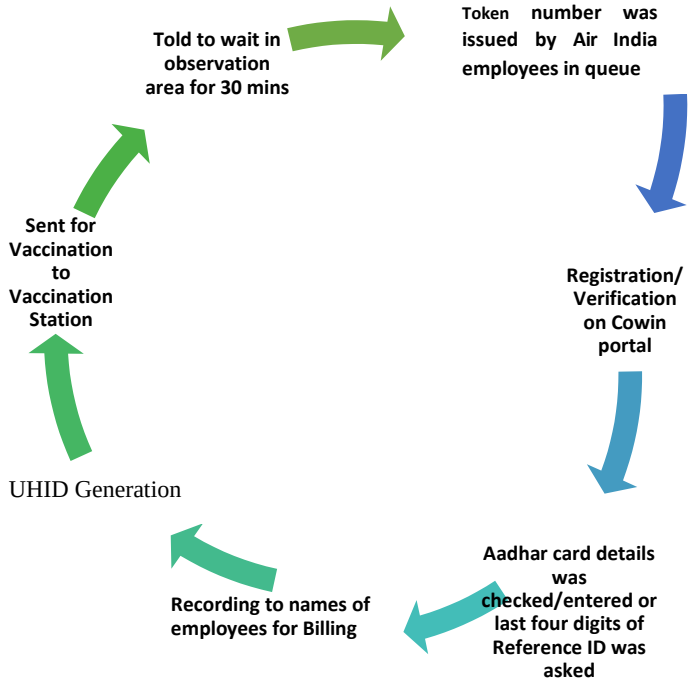


Fig 9: Steps for getting registered and getting vaccinated

3.5 Medical Administration-Operations

A. Check all night billing patients.

B. Patient round- Meet all previously admitted patients at least once a day, meet patients on HWC list/sick patients.

C. Meet all the new admissions and transfer-ins to the ward from last evening.

D. Getting undertaking approvals from respective departments is one of the duties of floor manager. Undertaking are as follows:

- Home food
- HIV AIDS
- If surgery approval is required from Insurance company
- If patient is COVID positive

E. Auditing at regular intervals:

- File audits (Nursing Risk Assessment form, Medication chart and more)
- Nursing staff audits
- Hand motion

F. Sending necessary documents if TPA query is raised

G. Attend rounds with physicians

H. Follow up on urgent referrals to ensure they are done in time

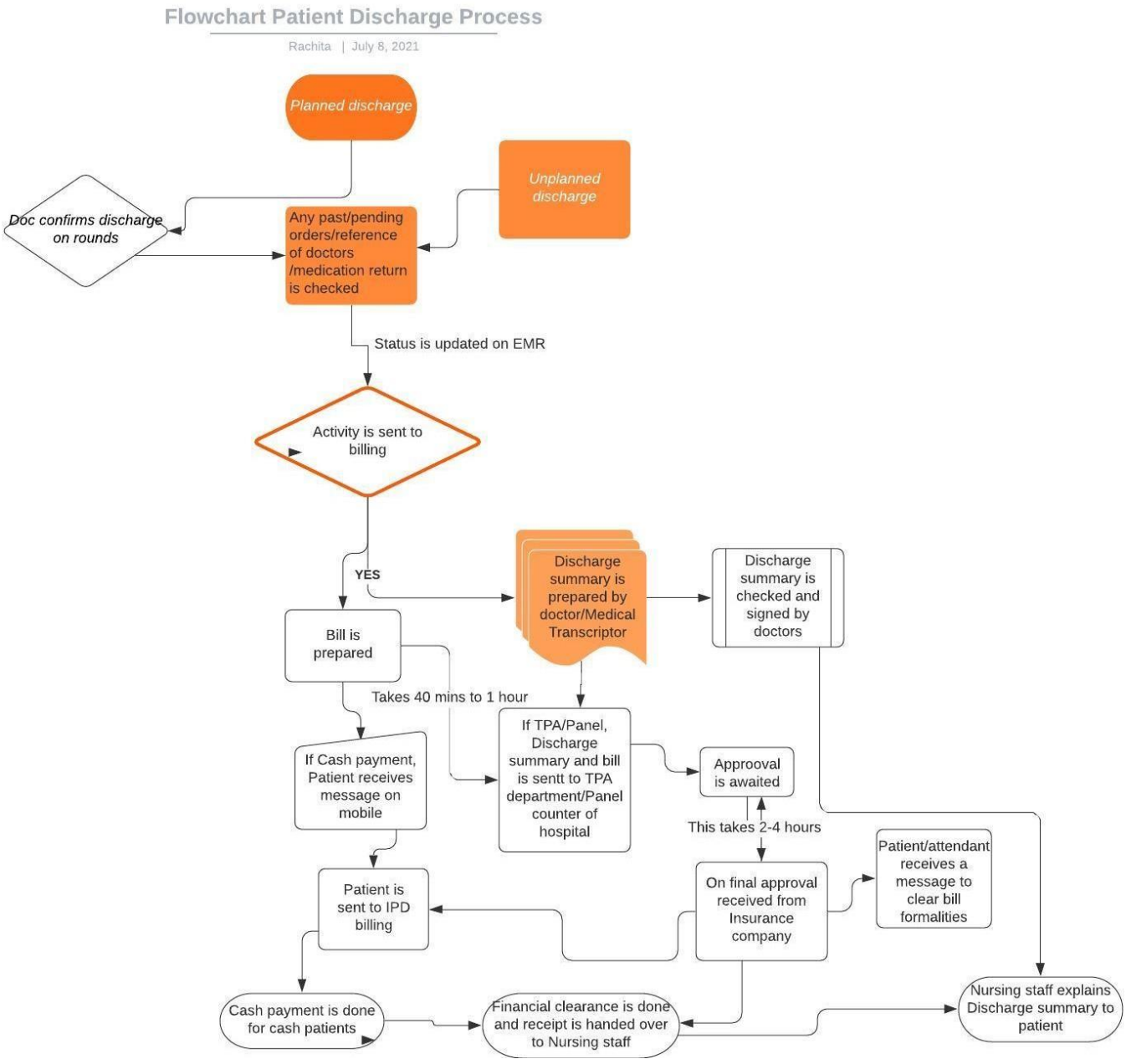
I. Keeping a check on patient needs are fulfilled regarding services

J. Ensure smooth flow of every step at discharge process and timely discharge

K. Ensuring financial clearance before any procedure/expensive medications

3.5.1. Patient Discharge process

Fig 10: Patient discharge Process flowchart



(Part B)

Study on Doctors' Perspective on Efficacy of Telemedicine in Medanta Hospital during COVID 19

4. Part B- A Study on Doctors' Perspective on Efficacy of Teleconsultation in Medanta Hospital during COVID 19

4.1 SECTION 1: Introduction

Telemedicine is a set of technological solutions that allow doctors to interact with and treat patients via text, video, and voice. It may be used by doctors, nurses, office staff, other healthcare professionals, and, of course, patients. It is typically characterized as a mix of technologies and equipment that may be used to get information about a patient's health state from a distance for knowing whether or not change is required.

As a result, due to the rising usage and development of digital technology, it may be used as a dual screening and diagnostic tool, as proven by current research (e.g., smartphones and digital connections).

Telemedicine helps doctors to have more convenient, real-time contacts with their patients, such as triaging acute concerns and scheduling rapid follow-up appointments, which saves time and money for the entire health system.

Telemedicine has recently gained a lot of traction as a result of the growing deployment and development of digital technology. It should be considered for inclusion in national and international recommendations when they are updated.

During the Corona pandemic, telemedicine has known to be the safest way of engagement among patients, both infected and uninfected people, and doctors due to required social distance and a lack of viable cures.

4.1.1. Aim:

Analytical study on doctor's perspective on efficacy of telemedicine in Medanta hospital during Covid 19

4.1.2. Objectives:

- To understand if virtual consultation is better than physical consultation
- To find out clinician's point of view on virtual consultation
- To understand ease of working for doctor in a virtual consultation setup
- To find out quality and effectiveness of treatment and interaction with patients
- To know if virtual consultation improved the COVID situation
- To find of change in patient flow before and during pandemic for teleconsultation
- To find out which type of consultation is more time consuming

4.1.3. Background

Telehealth is a valuable tool for countering this discrepancy and improving the delivery of health-care services by swapping relevant details for assessment, medication, and disease prevention and wounds, research and evaluation, and health-care practitioners' access to education using information and communication technologies. The global outbreak of Coronavirus Disease 2019 (COVID-19) has forced healthcare centers to rely on telemedicine to just provide treatment.

4.1.4. Review of Literature

Meaning of Telemedicine (Alvandi, 2017)

"Mederi" is a Latin word that meaning "healing," and "tele" is a Greek word that means "distance." Time magazine has nicknamed telemedicine "healing by wire." Telemedicine was once considered "futuristic" and "experimental," but it is now a reality and is here to stay. Telemedicine has a wide range of applications in medical care, education, research, administration, and public health.

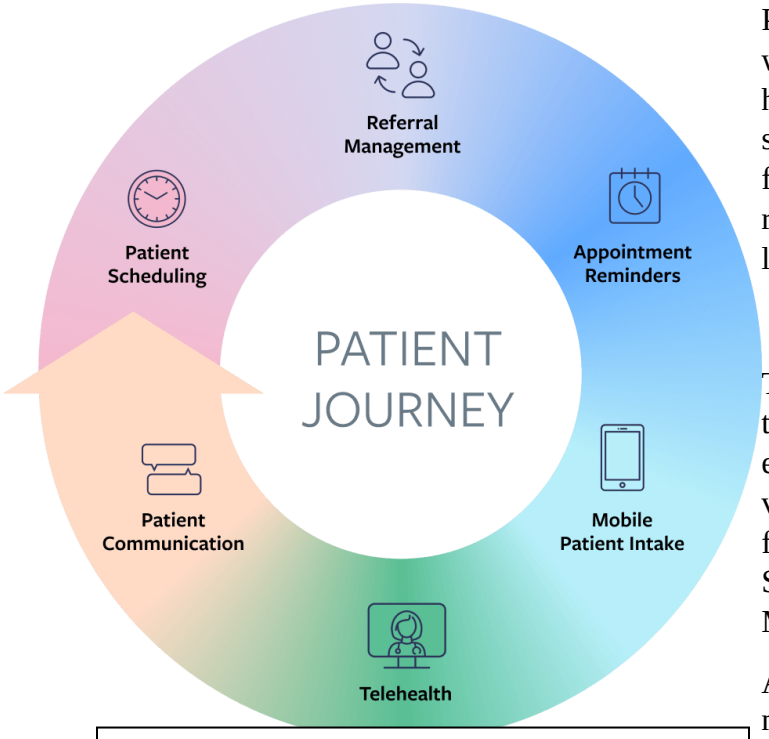


Fig 11: Patient journey in telemedicine process

People in rural and remote areas around the world face challenges in receiving timely, high-quality specialty medical care. Because specialist physicians are more likely to be found in highly populated urban regions, residents of these locations frequently have limited access to specialty healthcare.

The use of increasingly new digital technological tactics has spurred the employment of telemedicine during the various stages of infection much more frequently, such as in the examples of the SARS epidemic in 2003 and, later, the MERSCoV epidemic in 2013.

Appropriate technologies enable doctors to reach and monitor persons who have difficulty attending specialist consultations, particularly those with chronic illnesses who require ongoing monitoring.

Telemedicine was created with the primary purpose of improving chronic disease care, particularly in crises, in remote areas or in locations where access to medical care is limited.

Finally, telemedicine can now assist outpatients in managing periodic visits that have been suspended owing to local governments' mandated lockdown.

Cardiovascular disorders, in particular, necessitate continuous monitoring, which intensifies the risk of infection for both patients and physicians. Remote monitoring has expanded beyond

emergency scenarios in this context, with fast advancements in e-health technology observed during epidemics and pandemics.

Whereer practical, electrophysiologists have been converting most clinical consultations to remote monitoring (phone, video calls for visits, data analysis from digital wearables, etc.) as well as cardiac implanted electronic device inspections.

Non-urgent surgeries should be rescheduled wherever possible or coordinated on the same day as the visit if necessary to avoid repeated infections, and post-procedural follow-up should be done remotely.

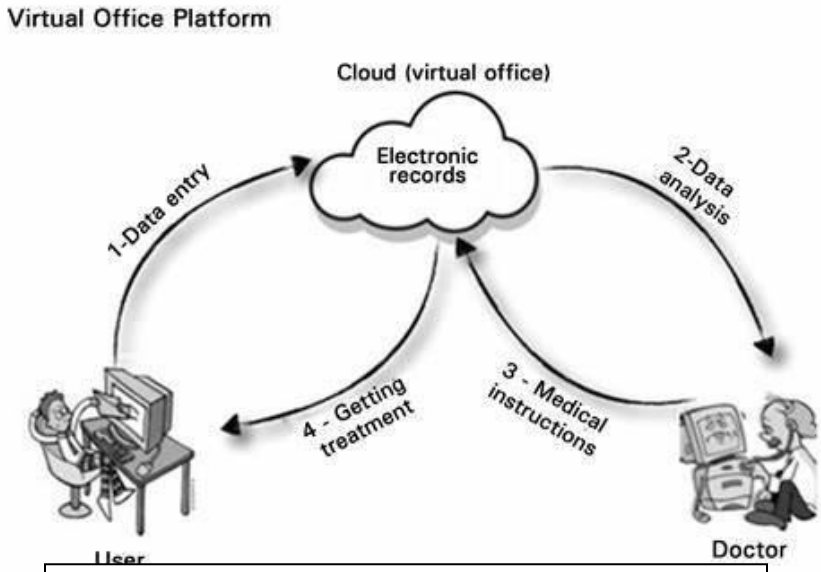


Fig 12: Virtual process in telemedicine

4.01 Importance: (Manhattan, 2021)

Telemedicine aims to meet the needs of today's healthcare customers, and it has the ability to change the way healthcare is delivered. It backs efforts to improve healthcare quality by minimizing the need for travel, offering clinical assistance, overcoming geographical constraints, providing various forms of communication technologies, and better patient outcomes by improved access and efficiency. Given the current emphasis on cost containment, enhancing care delivery to all portions of the population, and fulfilling consumer demand, e - health is an enticing tool to use to achieve these goals.

4.02 Telemedicine Practice Guidelines by Medical Council of India (MCI)

(Indian Medical Council, March 2020)

The Board of Governors of the Medical Council of India (MCI) has approved the "Telemedicine Practice Guidelines," which comprises broad regulations as well as a reality-based foundation for telemedicine. Whereas the general rules applies to any prospective proposals, the latter aims to cater to a specific requirement created by COVID-related legislation.

As a result, on March 25, 2020, the Indian Medical Council (Professional Conduct, Etiquette, and Ethics) Regulations, 2002 were revised, and the Ministry of Health and Family Welfare, Government of India, officially accepted the change.

Highlights of guidelines:

A) Scope: According to the Indian Medical Council Act 1956, a Registered Medical Practitioner (RMP) must be enrolled in either the State Medical Register or the Indian Medical Register. The RMP's criteria and processes for telemedicine consultations are included in the guidelines. The

following are important guidelines exclusions:

- Surgical or invasive treatments should not be performed with digital technologies.
- There are no provisions for discussions outside of India's jurisdiction.

B) Telemedicine practise training: To allow RMPs to become acquainted with these standards, as well as the procedures and limits of telemedicine practise:

- In place of MCI, the board of Governors will design and make available an online programme.
- To conduct telemedicine consultations, all presently registered medical practitioners must take a required within three years of being alerted about an online course of these rules.
- Following that, completing and passing a stipulated course will be required before a medical practitioner may register.

C) Telemedicine applications:

Telemedicine tools include telephone, video, devices connected through Local area network, Wireless LAN, Internet, mobile or landline phones, Chat, WhatsApp, Facebook Messenger, Mobile App, Skype/email/fax, and more.

Telehealth's applications may be divided into following categories, depending to their purpose.

- Communication mode,
- Information transmission timing,
- The consultation's goal
- • Participants' interaction: RMP-to-patient/caregiver or RMP-to-RMP

These seven aspects should be considered during a Telemedicine consultation in India.

1. **Context:** Telemedicine should be suitable and acceptable in light of the circumstances.
2. **RMP and patient identification:** For the sake of openness, both parties should know each other's names, e-mail addresses, and addresses.
3. **Mode of Communication**: In light of the situation, the strengths and drawbacks of voice, visual, writing, and other forms of communication should be evaluated.
4. **Consent:** Consent may be 'implied' in the case of a person who is mentally healthy who begins consultation. It may be 'Explicit' when a caregiver, RMP, starts the consultation. The patient can communicate his or her desire for explicit content by sending an email, text, or voice/visual message to the RMP. This must be documented in the file of patient and the RMP.

5. **Type of consultation:**

First consultation: When a patient consults the practitioner for the first time for the present health status, or for the first time in more than 6 months for the same health condition, or for the first time in more than 6 months for a new health problem.

Follow-up consultation: If a patient returns to the same practitioner within 6 months after a previous in-person session for the same health condition. If the RMP fails to recollect the context of previous treatment and counselling in the face of new signs that are not within the same health condition's spectrum, it will not be deemed follow-up.

6. **Patient evaluation:** Before making any professional judgments, RMPs must collect all medical facts concerning the patient's condition.
7. **Patient management:** If the illness can be handled through telemedicine, the practitioner can make a professional decision whether to give health education and counselling, and prescribe medications via a properly signed e-prescription.

D) Specific restrictions: Teleconsultation allows few medicines that can be prescribed shall be determined by the notification that is issued with time in consultation with the Central Government.

The following are the types of medications that can be prescribed:

List O: Can be prescribed through teleconsultation in any mode. 'Over the counter' medications would be included.

List A: Relatively safe drugs that can be provided at the initial consultation and are re-prescribed for refill in the event of a follow-up visit.

List B: Medications that RMP can give to a patient who is having a follow-up appointment in addition to those that were prescribed for the same medical condition at the previous in-person consultation. Medicines classified in Schedule X of the Drug and Cosmetic Act and Rules, as well as any Narcotic and Psychotropic Substance listed in the Narcotic Drugs and Psychotropic Substance Act and Rules, fall under this category.

Prohibited list: These medications are on the prohibited list because they have a significant potential for misuse. Medicines classified in Schedule X of the Drug and Cosmetic Act and Rules, as well as any Narcotic and Psychotropic Substance listed in the Narcotic Drugs and Psychotropic Substance Act and Rules, fall under this category.

These medications are on the prohibited list because they have a significant potential for misuse.

- Aside from the aforementioned, the practitioner would be required to keep a digital record of the consultation.
- A fee for telemedicine consultation can be charged, and the patient may be provided a receipt/invoice.

- When seeking advice for an emergency issue, the objective should be to offer in-person care as soon as possible.

4.03 Modern telemedicine (Virdi, 2017)

Over the last few decades, wireless broadband technology has advanced to the point that cell phones and internet use are essentially ubiquitous. People can self-learn this form of communication and implement it in their daily lives, regardless of their level of education. More technology advancements that enable image transfer would increase the sharing of medical data like X-rays and scans.

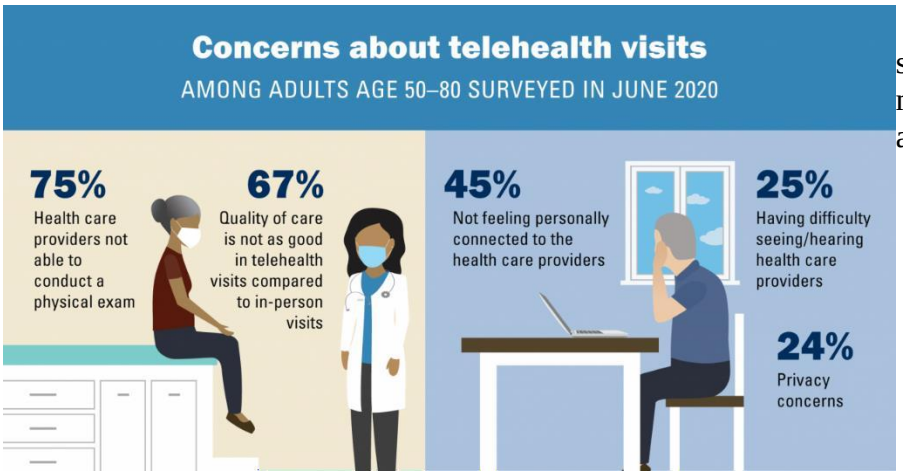
Broadband communication speeds, data processing database systems, web service backups, regular formats for data transmission, encryption, password protection, regulations from the Health Insurance Portability and Accountability Act of 1996, digital technology of information, and the establishment of electronic medical records have all contributed to the advancement of e-health and telemedicine.

4.04 Increase of telemedicine use during COVID 19 (Raffaele Galiero, 2020)

Before recently, there was no law or guidelines on using telehealth in India, and the lack of information in the rules presented a risk for both patients and medical professionals. However, during the COVID-19 outbreak, telemedicine has become a prominent topic.

4.05 Critical Issues of telemedicine (Rock, 2015)

Despite all of these successes, there are a few key problems to consider when using telemedicine as a method for health-care delivery:



- When information supplied via telemedicine is misunderstood, a liability issue affects telemedicine.

The security and privacy of telemedicine services are critical for consumer and health-care professional acceptability;

Fig 13: Issues in telemedicine

- Information and computer systems must be protected at all costs, and providers must stick to all information related privacy and security regulations.
- In order to encourage effective system, technical support employees must be trained in information security throughout the transmission of client information.
- There is need to create a procedure for health-care professionals to be reimbursed for services performed via telemedicine.
- A successful telehealth programme requires a private, good-speed internet connection, a

medical patient access technology, and telemedicine act as the interface centre, and access to IT specialists to set up the system and be accessible in the event of a system failure.

- Time for training in order to improve technical knowledge needed to set up and operate equipment, and technical understanding. Effective structures that must be addressed in running and administering the telemedicine programme include interpersonal skills, recordkeeping, career progression, resource management, practise and operational concerns, and confidentiality of the patient.
- Extra time may be required for equipment management and prescription transmission during telemedicine appointments.

4.06 Benefits (Guillot, 2020)

Telemedicine reduces travel expenses, reduces time, lowers medical price, and makes specialist doctors more accessible to the general public without interfering with their daily lives by delivering clinical knowledge and regardless of where the patient is located, consultation and conversation between health-care experts and patients should be allowed.

- Telemedicine proved to be an extra advantage in the aftermath of the current epidemic, providing both health-care practitioners and patients with the essential extra benefits:
- Telemedicine can be utilized to treat chronic conditions including ongoing pulmonary bronchitis, bp, and diabetes, specifically at a time when isolation and distancing is appreciated. People with such disorders tend to be more vulnerable to Covid, and adherence to drugs and treatment plan are essential strategies for reducing the disease's intensity. Telemedicine has the potential to be a secure and reliable alternative to in-person treatment.

- Telemedicine may also be utilised to provide patients and their relatives receive psychosocial counseling while being protected from infection.
- During the COVID-19 pandemic, telemedicine can assist relieve the load on tertiary hospitals by allowing patients to receive diagnosis and treatment in the comfort of their own homes, reducing the danger of patient exposure from hospital visits, and easing the pressure on tertiary hospitals.
- Telemedicine may also be used to teach caregivers for ill and handicapped children and the elderly. Easy access of treatment for high risk groups like senior citizens.
- Better flexible scheduling options, reduced costs, reduced time spent in the waiting area, and the flexibility to conduct digital sessions from the comfort of one's own home.
- Empower the communities of remote areas to still access good treatment
- Critical needs of patients can be addressed or initial/basic treatment of chronic diseases can be done
- Helps save supplies and beds for high risk patients by encouraging low risk patient's treatment at home
- Telemedicine also increases the possibility of improved record-keeping and documentation.

4.07 Limitations

- Reduced care
- Technical training and equipment required, help from IT staff
- Not all procedures and diagnosis/examination can be carried out virtually

4.2 SECTION 2: Research Methodology- This study was carried out and following are the details-

Research question- What is the doctors' point of view towards telemedicine regarding patient satisfaction, convenience of working and if it is better from physical consultation?

- *Study type*: Cross-sectional analytical study (Z test)
- *Study Area*: Medanta the Medicity Hospital
- *Method of Data collection*: Primary data was collected through paper-based interviews with doctors
- *Sampling Method*: Convenient Sampling.
- *Study duration*- 2 weeks (June 2021).
- *Sample Size*- 60 doctors' were asked about their opinion through on paper questionnaire
- *Study tool*: Questionnaire
- https://docs.google.com/forms/d/1ggDaDIYeBIGPKvYyS9sGAlMolGFpOMuTuIZnHRidOqk/edit#start=openform
- *Type of respondents:* Doctors

Table 3: showing questions and their interpretation

Question based on	Question no.	Interpretation
Quality of treatment teleconsultation	1	Quality of teleconsultation
Quality of interaction with patients	15	
Patient flow before pandemic	6	Patient flow
Patient flow during pandemic	7	
Ease of work	10	Ease of working for doctors
Ease of making prescription	11	
Ease of treatment for doctor	9	
Which type of consultation is better?	13	Comparison of virtual and physical consultation
Reasons for being better	14	
Is virtual consultation time consuming?	17	
Future aspect of virtual consultation	16	Future point of view
Cost Effectiveness for patients	3	Effectiveness of teleconsultation
Effectiveness of treatment	4	

4.2.1. Methods and materials:

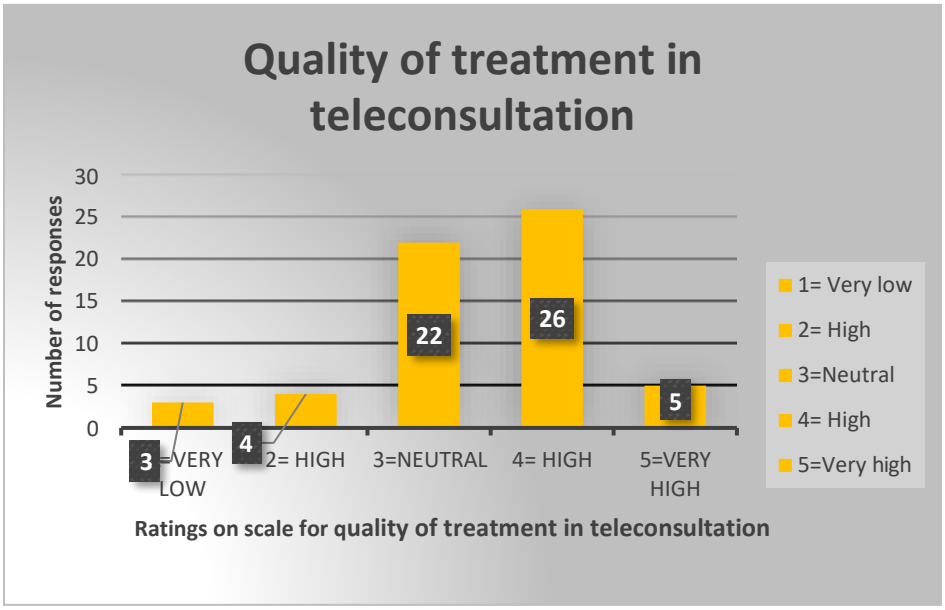
For the study Likert's scale and Net promoter score (NPS) were used.

Likert's scale is a 5pointer scale that is closed-ended with two adjectives on each of the corners which are opposite e.g. Strongly disagree ---strongly agree.

4.3 SECTION 3: Findings & Analysis

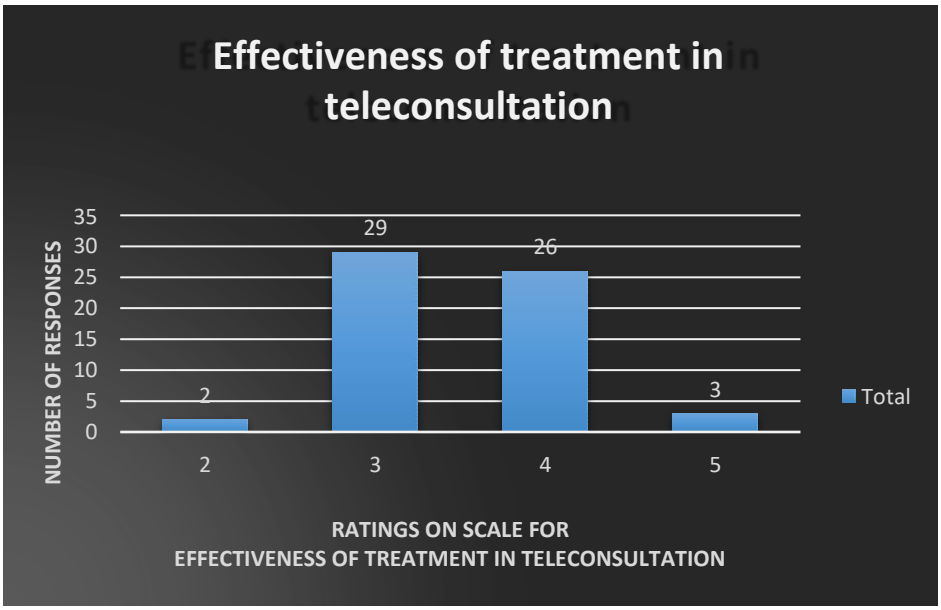
1. Quality of treatment v/s effectiveness of treatment in teleconsultation

Fig 14 showing Quality of treatment in teleconsultation



Interpretation: Majority of doctors i.e. 43% think that quality of treatment in teleconsultation was high while 37% doctors think that it is neutral. 8% doctors felt that quality of treatment was very high whereas only 7% doctors think that it was high and 5% doctors feel it was very low.

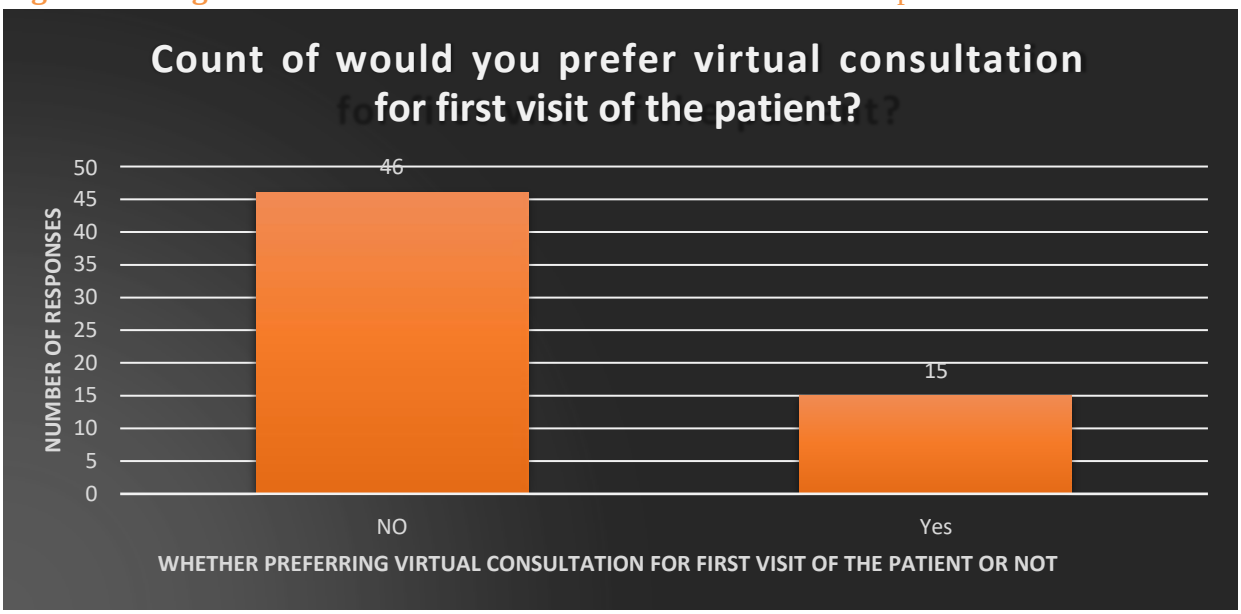
Fig 15 showing effectiveness of treatment in teleconsultation



Interpretation: Majority of doctors i.e. 49% think that effectiveness of treatment in teleconsultation was neutral while 43% doctors think that it is high. 5% doctors felt that it was very high whereas only 3% doctors think that it was low.

2. **Preference to virtual consultation for first visit of the patient**

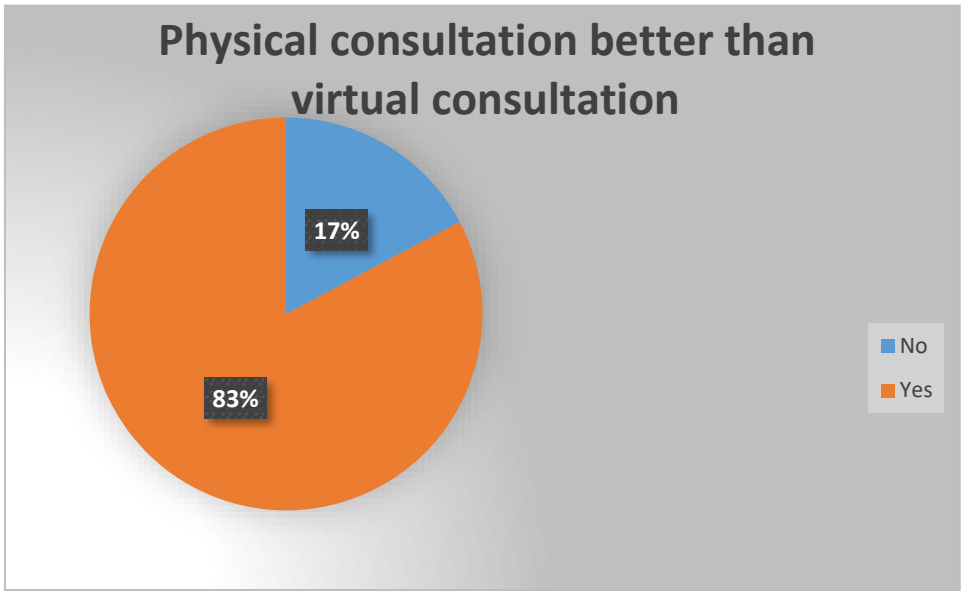
Fig 16 showing Preference to virtual consultation for first visit of the patient



Interpretation: Majority of doctors i.e. 75% think that virtual consultation should not be preferred for first visit of the patient while 25% doctors felt it can be chosen.

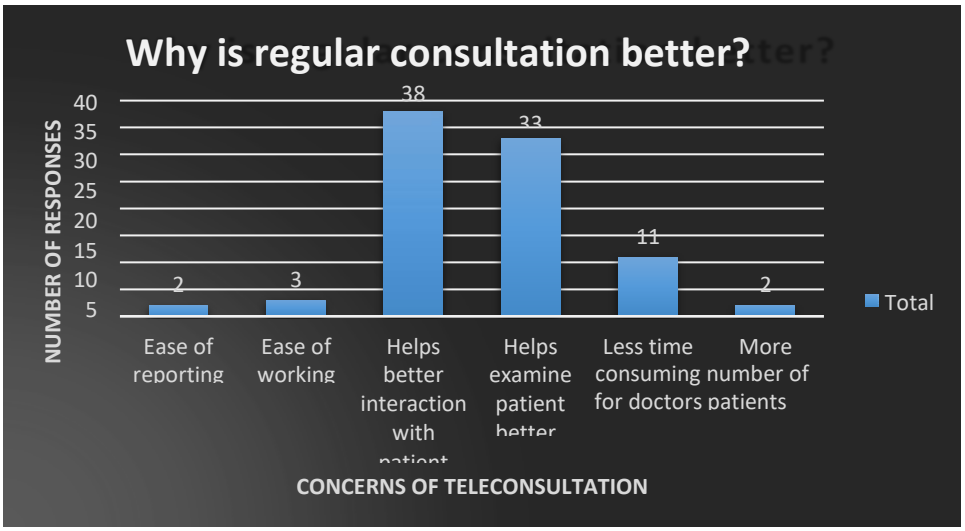
3. **Physical consultation better than virtual consultation v/s time consumption**

Fig 17 showing data for are which type of consultation is better



Majority of doctors i.e. 83% think that physical consultation is better than virtual consultation while 17% doctors felt vice-versa.

Fig 18 showing reasons why doctors favour regular consultation



43% doctors felt that interaction with patient is a huge concern and its better done in physical consultation.

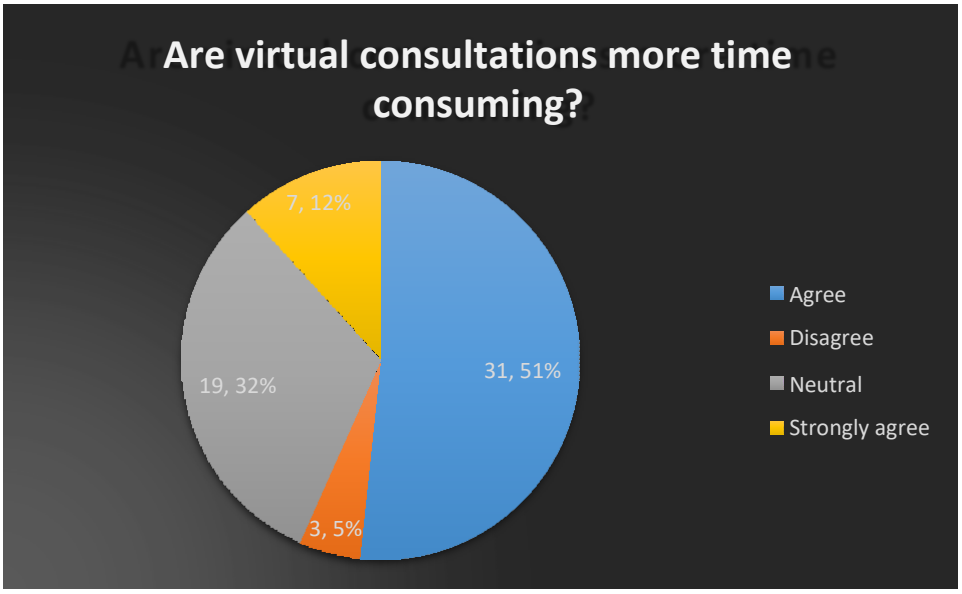
37% doctors said that examining patient is an issue in teleconsultation and is done better in physical consultation.

12% think there virtual consultation is more time consuming.

4% said there is less ease of working

2% each said there is less ease of reporting and less number of patients.

Fig 19 showing data for are virtual consultations more time consuming?

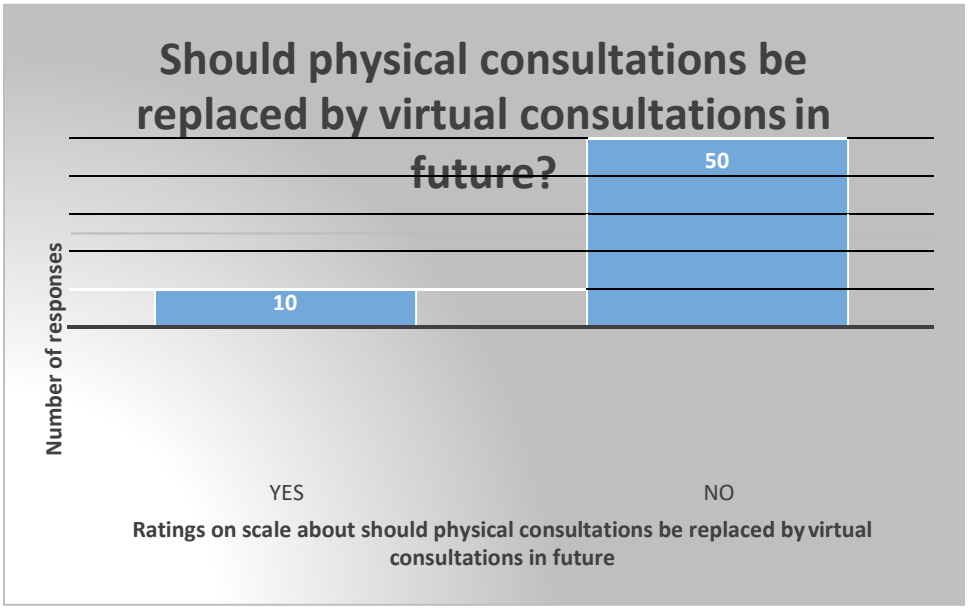


Majority of doctors i.e. 51% think that virtual consultations are more time consuming than physical consultation while 32% doctors felt neutral about it and only 12% doctors strongly agree while 5% disagree but nobody strongly disagrees.

Interpretation: 83% responses showed physical consultations are better than virtual consultations and 51% responses showed virtual are more time consuming. Major concern in virtual ones are poor interaction and examination with/of patients which accounts for 43% and 37% respectively.

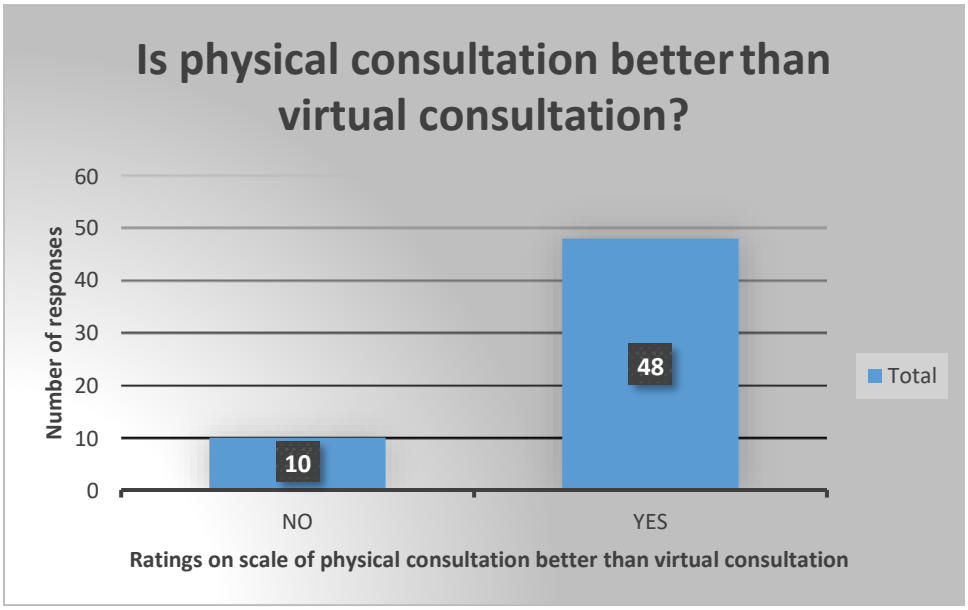
4. Replacement of physical consultations by virtual consultations in future v/s which type is better?

Fig 20 showing should physical consultations be replaced by virtual consultations in futur



83% doctors refused to replace physical with virtual consultation while 17% said yes for it.

Fig 21 showing if physical consultation better than virtual consultation



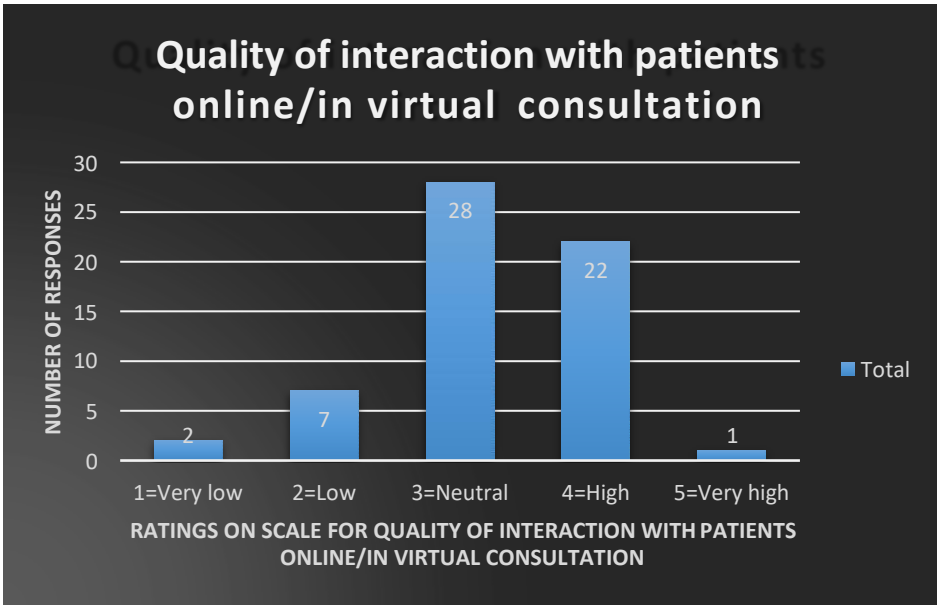
83% doctors said physical consulation is better while 17% said no for it.

Interpretation: 83% doctors said physical consultation is better and 83% doctors refused to replace it by virtual consultation in future.

5. Comparison of physical v/s virtual consultation

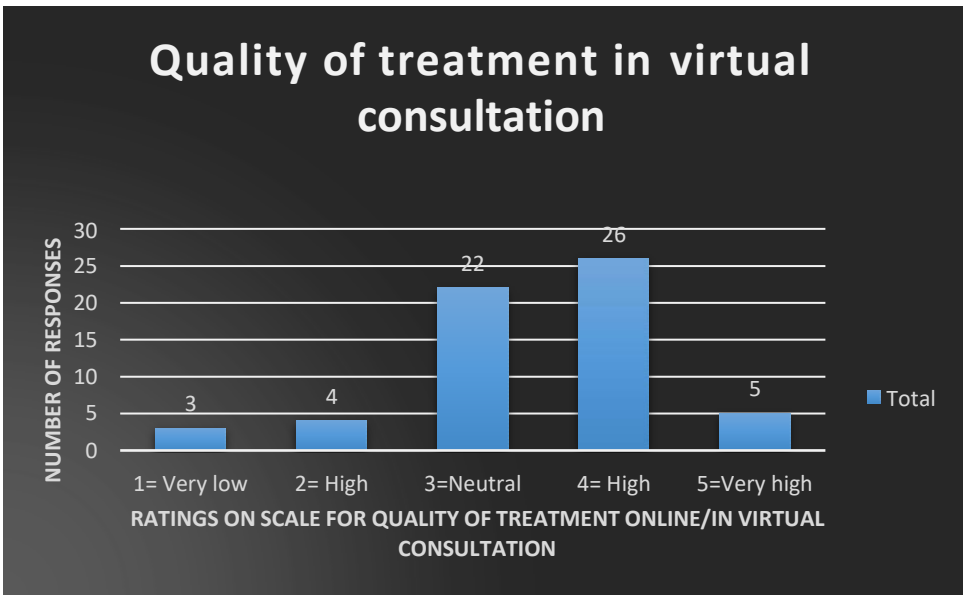
Quality of interaction with patients online/in virtual consultation v/s quality of treatment in virtual consultation v/s time consumption in virtual consultation

Fig 22 showing quality of interaction with patients online/in virtual consultation



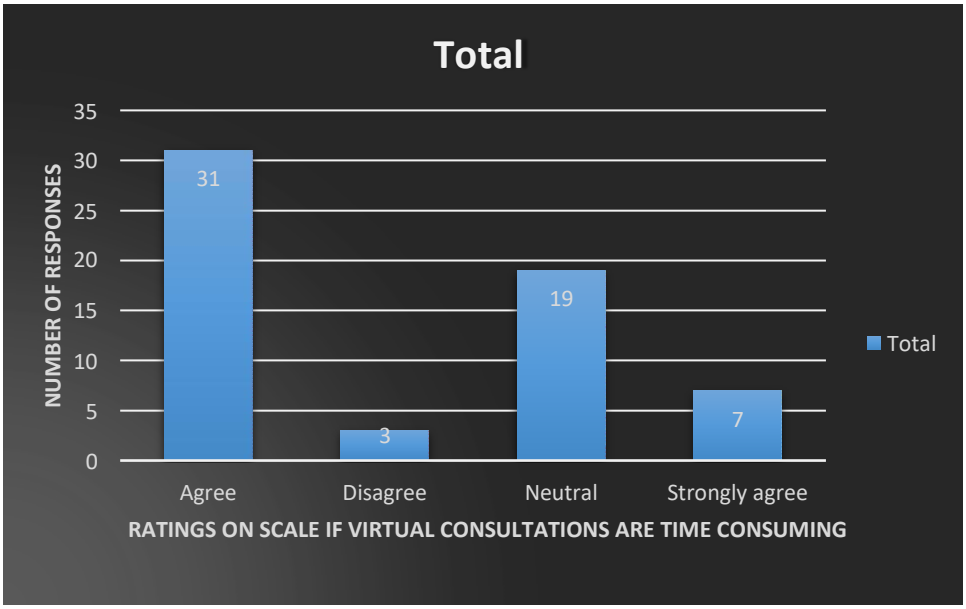
46% doctors felt quality of interaction with patients in virtual consultations is neutral, 37% feel it is high whereas 12% feel low, 3% feel it's very low and 2% feel it's very high.

Fig 23 showing quality of treatment in virtual consultation



43% doctors felt quality of treatment with patients in virtual consultations is high, 37% feel it is neutral whereas 8% feel it is very high, 5% feel it's very low and 7% feel it's high.

Fig 24 showing data if virtual consultations are time consuming

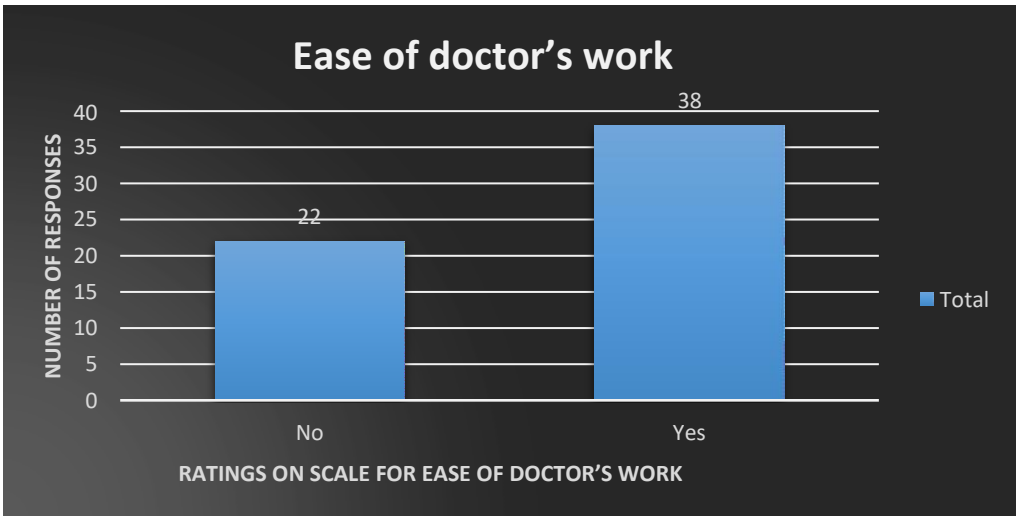


Majority of doctors i.e. 51% doctors think that virtual consultations are more time consuming than physical consultation while 32% doctors felt neutral about it and only 12% doctors strongly agree while 5% disagree but nobody strongly disagrees.

Interpretation: 51% think virtual consultations are more time consuming than physical consultation while 46% doctors felt quality of interaction with patients in virtual consultations is neutral and 43% doctors felt quality of treatment in virtual consultations is high.

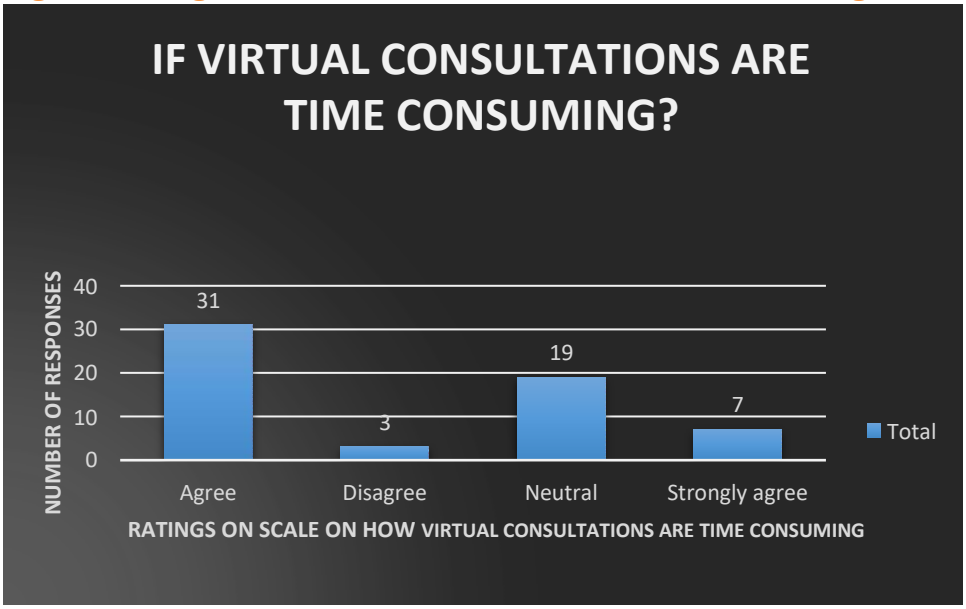
1. **Ease of doctor's work v/s virtual consultations being time consuming**

Fig 25 showing data about ease of doctor's work



63% doctors agreed and felt there's ease of work while 37% refused for the same.

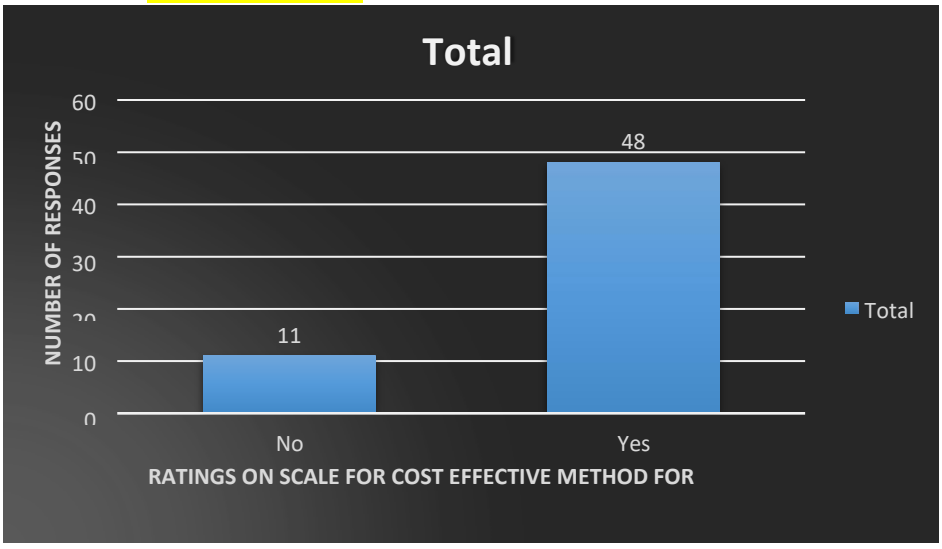
Fig 26 showing data if virtual consultations are time consuming



Majority of doctors i.e. 51% think that virtual consultations are more time consuming than physical consultation while 32% doctors felt neutral about it and only 12% doctors strongly agree while 5% disagree but nobody strongly disagrees.

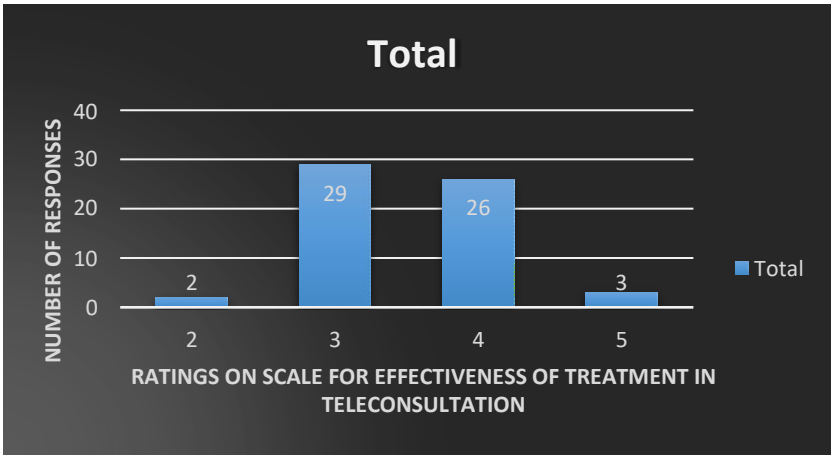
Interpretation: . 51% think that virtual consultations are more time consuming than physical consultation **63% doctors agreed and felt there's ease of doctor's work.**

2. **Cost effective method for patients' v/s effectiveness of treatment in teleconsultation**



81% doctors accepted that it is a cost-effective way for patients while 19% refused.

Fig 28 for effectiveness of treatment in teleconsultation

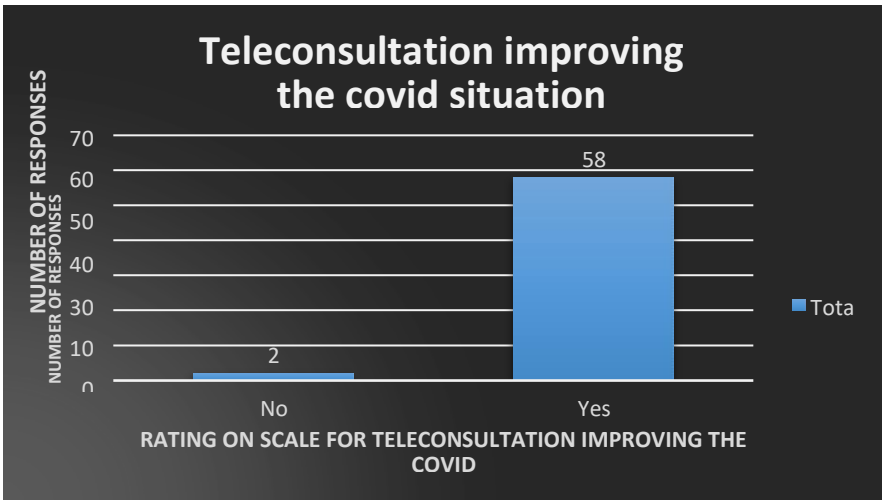


49% doctors feel effectiveness of treatment in teleconsultation is neutral, 43% doctors said it is high, 5% doctors feel it's very high while 3% doctors say it is low.

Interpretation: 81% doctors accepted that it is a cost effective way for patients but 49% doctors feel effectiveness of treatment in teleconsultation is neutral.

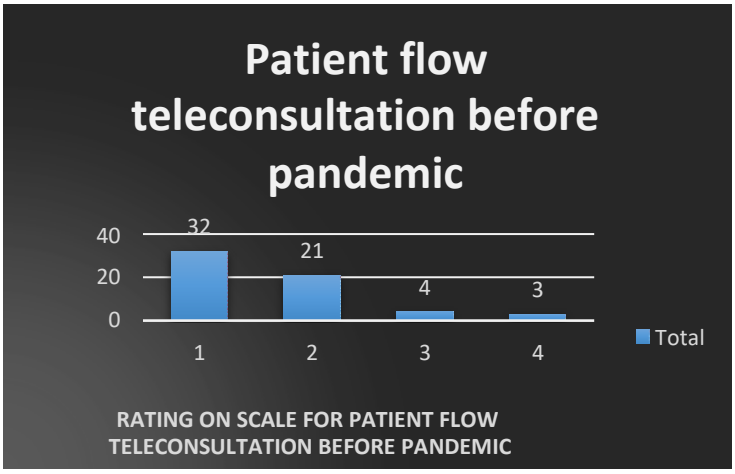
3. Teleconsultation in COVID situation

Fig 29 for teleconsultation improving the covid situation



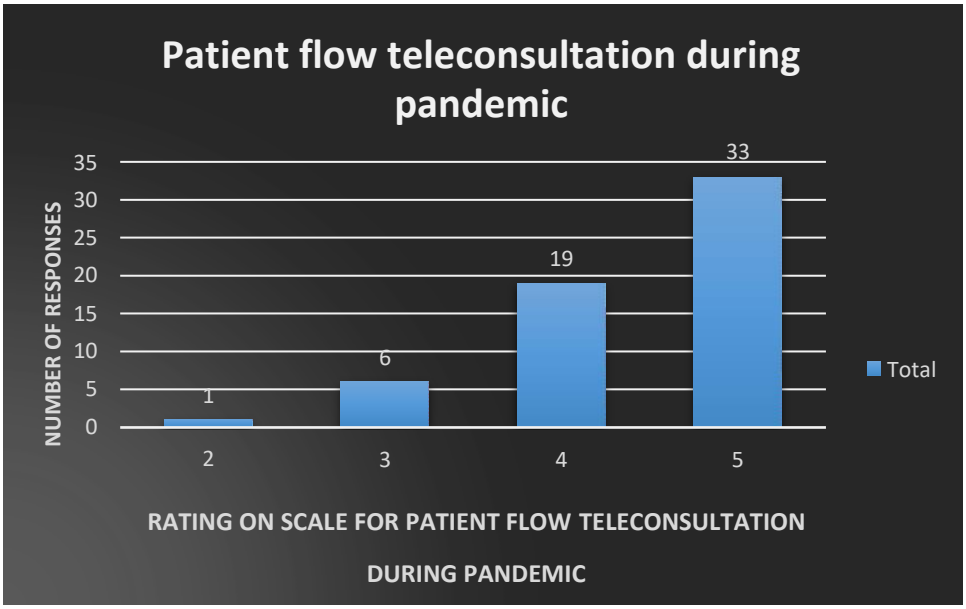
98% doctors think that teleconsultation helped improve COVID situation while only 2% think it didn't.

Fig 30 for patient flow teleconsultation before pandemic



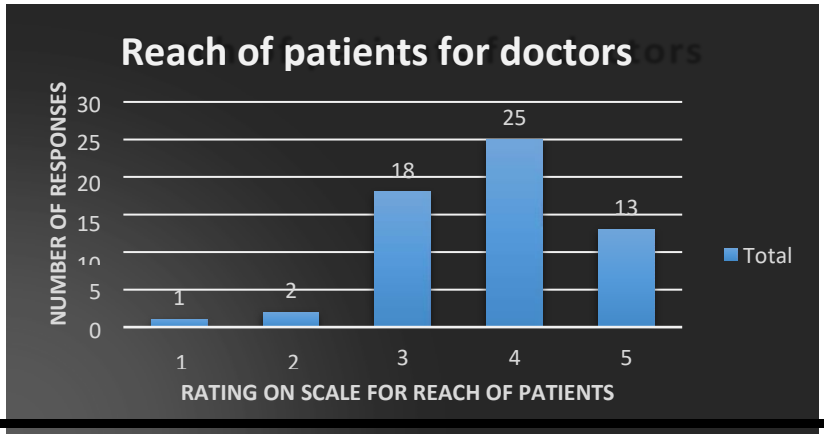
53% doctors feel that patient flow before pandemic for teleconsultation was very low while 35% think it was low and 7% think it's neutral. Only 5% think it was high and nobody think it was very high.

Fig 31 for patient flow teleconsultation during pandemic



56% doctors feel that patient flow during pandemic for teleconsultation is very high while 32% think it is high and 10% think it's neutral. Only 2% think it was low and nobody think it was very low.

Fig 32 for patients covered by doctors (Reach of patients)

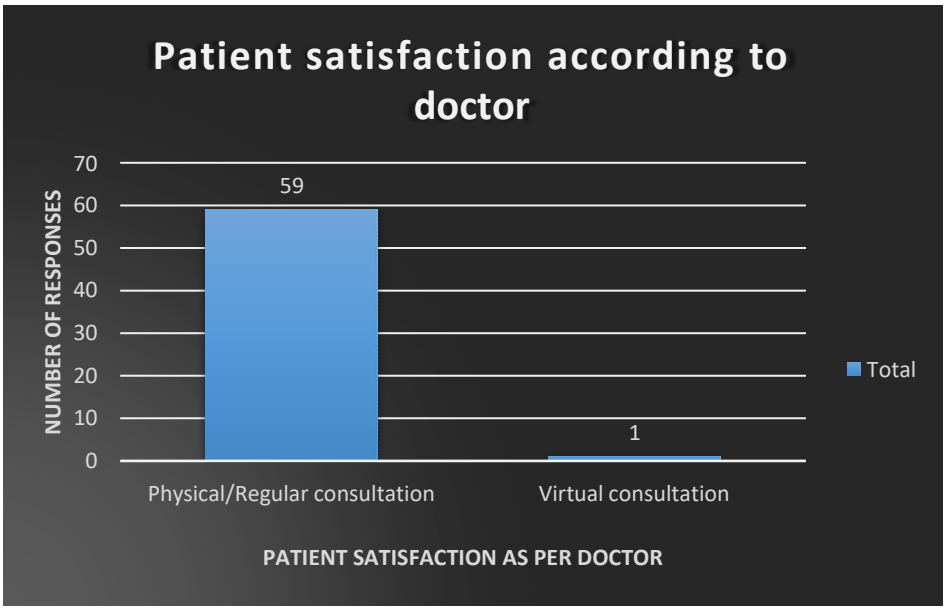


42% doctors feel that patients' reach was high, 31% feel it was neutral while 22% think it was very high, 3% think it was low and only 2% feel it was very low.

Interpretation: Teleconsultation did help in improving COVID situation as told by 98% doctors and 53% doctors told patient flow was very low before pandemic and 56% doctors said it is very high during pandemic for teleconsultation while 42% doctors agreed that patient reach i.e. patient covered through virtual consultation is high as well.

4. Patient satisfaction according to doctor

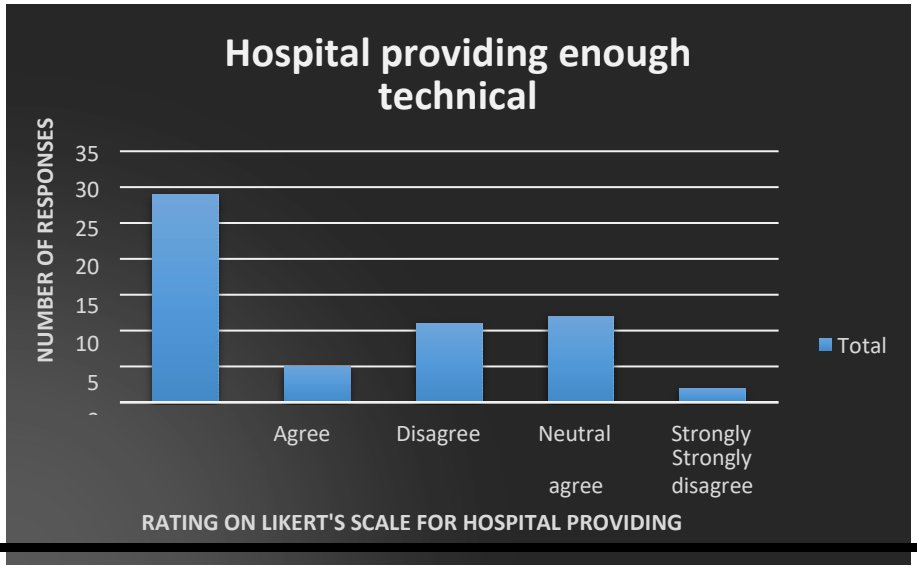
Fig 33 for patient satisfaction according to doctor



98% doctors think that physical consultation had higher patient satisfaction levels while 2% think teleconsultation has low or negligible patient satisfaction.

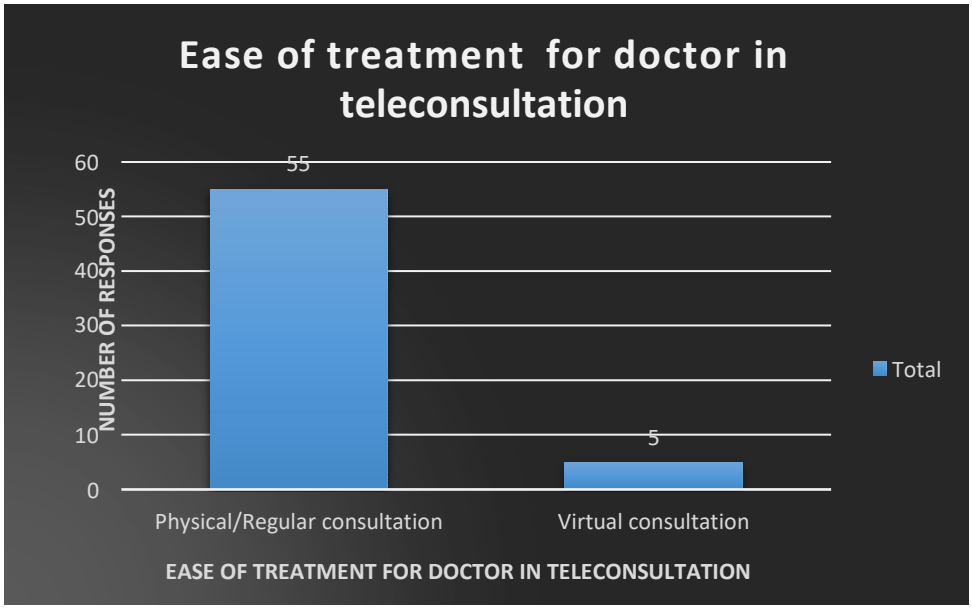
5. Ease of working with technology in teleconsultation

Fig 34 for hospital providing enough technical support



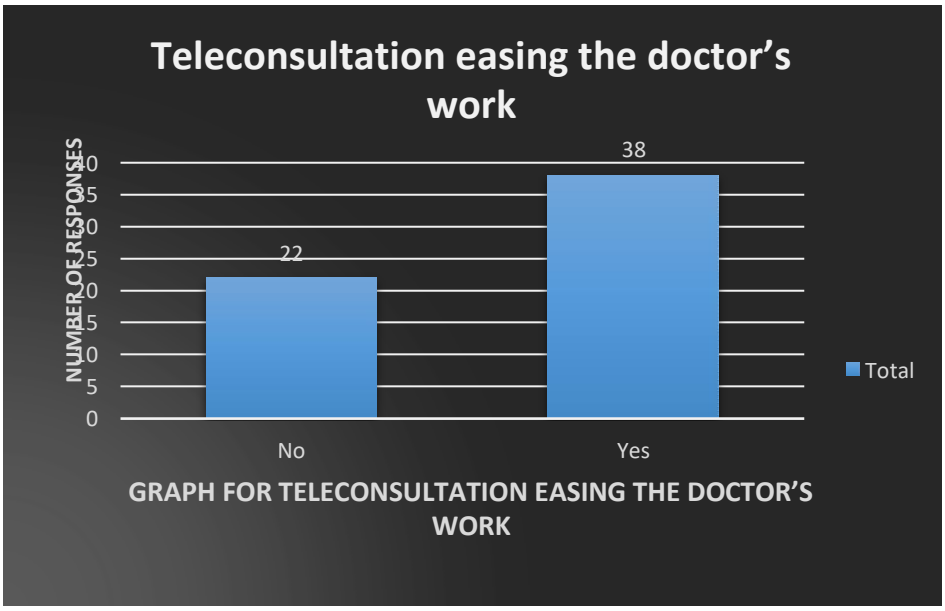
49% doctors agreed about hospital providing enough technical support for teleconsultation, 20% strongly agreed while 19% were neutral, 9% disagreed and only 3% strongly disagreed

Fig 35 for ease of treatment for doctor in teleconsultation



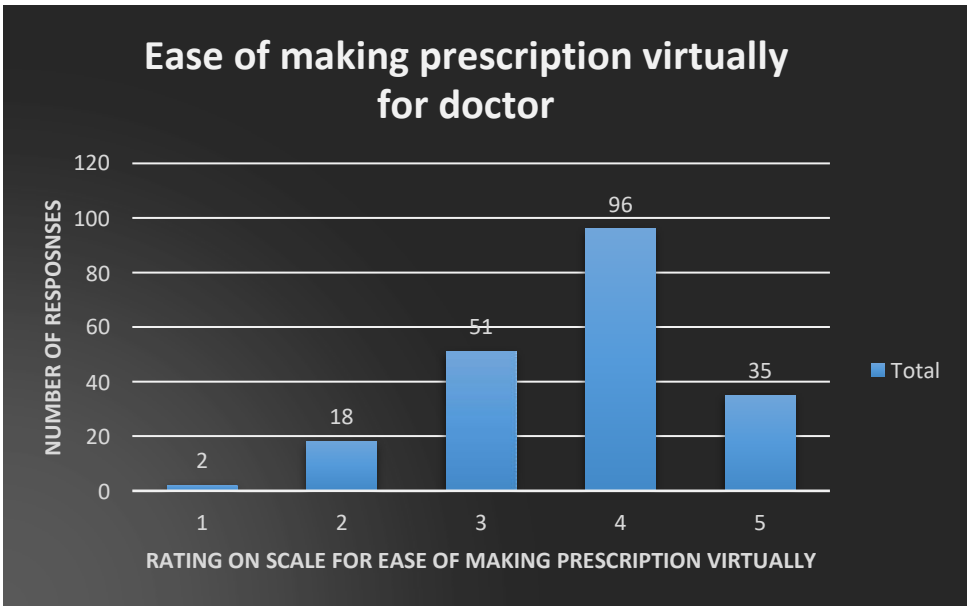
92% doctors think that ease of treatment for doctor is more in regular consultation and 2% think it is more in teleconsultation.

Fig 36 for teleconsultation easing the doctor's work



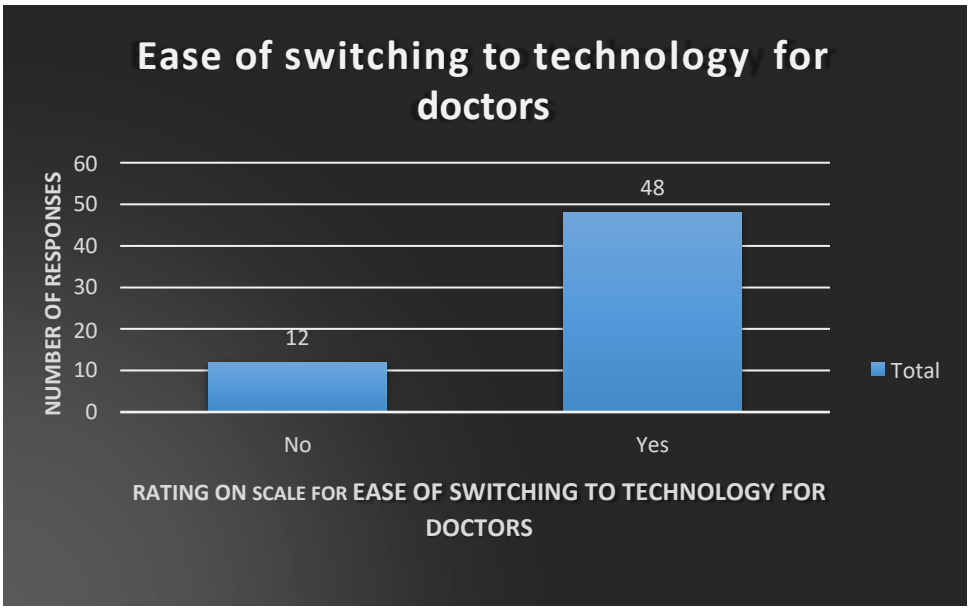
63% doctors felt that teleconsultation eased the doctor's work but 37% felt it did not.

Fig 37 for ease of making prescription virtually for doctor in teleconsultation



48% doctors felt that ease of making prescription virtually for doctor in teleconsultation was high, 25% felt it was neutral and 17% felt it was really high while only9% felt it was low and 1% felt it was very low.

Fig 38 for ease of switching to technology for doctors in teleconsultation



80% doctors said that it was easy being tech-savy (shifting to technology) while 20% refused to saying it was easy being tech-savy.

Interpretation: 40% doctors agreed that hospital gave enough technological/technical support and 92% doctors agreed that ease of treatment is better in regular consultation than in teleconsultation but teleconsultation eased doctor's work as told by 63% doctors and for 80% doctors it was easier for them being tech-savy andfor 48% doctors, it was easy making prescriptions virtually.

4.3.1. Discussions

- Majority of doctors i.e. 49% think that effectiveness of treatment in teleconsultation was neutral while 43% doctors think that it is high. 5% doctors felt that it was very high whereas only 3% doctors think that it was low.

- Majority of doctors i.e. 75% think that virtual consultation should not be preferred for first visit of the patient while 25% doctors felt it can be chosen.

- Major concerns in virtual consultation are poor interaction and examination with/of patients which accounts for 43% and 37% respectively.

- 83% doctors said physical consultation is better and 83% doctors refused to replace it by virtual consultation in future.

- 51% think virtual consultations are more time consuming than physical consultation while 46% doctors felt quality of interaction with patients in virtual consultations is neutral and 43% doctors felt quality of treatment in virtual consultations is high.

- 51% think that virtual consultations are more time consuming than physical consultation but 63% doctors agreed and felt there's ease of doctor's work.

- 81% doctors accepted that it is a cost-effective way for patients but 49% doctors feel effectiveness of treatment in teleconsultation is neutral.

- Teleconsultation did help in improving COVID situation as told by 98% doctors and 53% doctors told patient flow was very low before pandemic and 56% doctors said it is very high during pandemic for teleconsultation while 42% doctors agreed that patient reach i.e. patient covered through virtual consultation is high as well.

- 98% doctors think that physical consultation had higher patient satisfaction levels while 2% think teleconsultation has low or negligible patient satisfaction.

- 40% doctors agreed that hospital gave enough technological/technical support and 92% doctors agreed that ease of treatment is better in regular consultation than in teleconsultation but teleconsultation eased doctor's work as told by 63% doctors and for 80% doctors it was easier for them being tech-savy and for 48% doctors, it was easy making prescriptions virtually.

4.4 SECTION 4: Conclusion

Healthcare community has to innovate new business models and open up new avenues for revenue , telemedicine could be an additional business model to thirve the business.

Telemedicine will continue to develop and be used in a variety of ways by more wellness patients and physicians, and these ethical principles will be a key enabler of that growth.

The goal of these recommendations is to provide clinicians with practical guidance so that care plan utilized by physicians may embrace telemedicine as a standard practice.

4.4.1. Recommendations

- Encouraging doctors to keep follow-up patients for teleconsultation. This can save doctors' time and increase footfall of the hospital.
- Developing technology and database to help improve the quality of patient-doctor interaction and improve patient experience.
- Monitoring at regular intervals for any false data, breach of data privacy or any technological failure.
- Providing easy, affordable and quick homecare services for tests, checkups recommended by doctors. This will help the patient to save their time and in turn get connected with EMR. This can help improve patient satisfaction.
- Compliance of HIPAA guidelines by telemedicine provider is mandatory and should be verified.
- Remote Patient Monitoring can be done to keep a check on their health status via EMR.

To guarantee patient and provider safety, these recommendations will aid the physicians in following cited on recent information, present supplies, and patient requirements, a suitable plan of action for delivering effective and safe medical treatment.

Telemedicine, on the other hand, cannot solve all issues and cannot substitute physical consultations or emergency treatment. This will, however, add a significant action to combating present Covid-19 epidemic. Furthermore, if it is widely accepted and implemented, it can aid in better handling for upcoming pandemics and communicable diseases exposure.

4.4.2. Scope of further research

- Telemedicine can be a useful technique for epidemiological surveillance, identifying hotspots, estimating disease burden, and implementing control of exposure strategies.
- Telemedicine can be used to provide health education to individuals, families, or groups on different risk factors, as well as illness prevention for communicable and non-communicable diseases.
- Further, a population of rural doctors can be covered as only urban population of Medanta Hospital has been covered.
- Also, this study can be modified to a comparative study where different hospitals and their preparation for telemedicine, patient response and doctors' feedback during Covid 19 can be checked.

(Part C)

Study on International Patient Safety Goal 6: Fall risk prevention assessment and education for IPD patients

5. Part C- A Study on International Patient Safety Goal 6: Fall risk prevention assessment and education for IPD patients

5.1 SECTION 1: Introduction

A fall risk assessment is used to determine if you are at risk of falling at a no, low, moderate, or high level. If the evaluation reveals that you are at a higher risk of falling, your concerned caregiver may suggest methods to help you avoid falling and avoid harm.

Falls in hospitals among patients is known to be a serious patient safety concern, yet a possibility of some little evidence that frequently used fall prevention treatments in hospitals are beneficial. It is an essential goal of IPSG guidelines.

5.1.1. Aim:

IPSG Goal 6 Fall Prevention Assessment and Education for IPD patients

5.1.2. Objectives:

- To identify high fall risk patients
- To audit and understand correct assessment and documentation for fall
- To assess if patients have been given fall risk prevention education
- To suggest preventive measures to minimize risk of fall
- To check compliance of IPSG 6 in wards
- To give education to nursing staff to prevent falls

5.1.3. Background

Hospitals employ a number of "guidelines" to avoid falls. They entail 1) identifying people who tend to be admitted at increased risk of falling and 2) utilizing medical judgement for selecting from a number of fall prevention interventions to minimize the risk of falling.

This study examines frequent flaws in the fall risk assessment process, as well as recommendations for several hospitals fall prevention treatments.

Not unexpectedly, some substantial variability across the recommendations, which contributes to the uncertainty about the "correct approach" to fall prevention; this is encouraging the adoption various fall prevention strategies as "standard of care." The absence of clarity in preventive recommendations may raise the cognitive load of patient care while also increasing the risk of patient harm.

5.1.4. Review of Literature

5.1.5. Why is fall a part of IPSG goal? (MedlinePlus, 2021)

A fall risk assessment is a method of evaluating a variety of risk variables, including mobility difficulties and physiological characteristics such as muscular strength and balance, stability, posture, and gait reaction time.

Implements a procedure for assessing patients for fall risk at the outset and reassessing patients when conditions or prescriptions change, among other things. Reduce the chances of a patient becoming injured as a result of a fall. Measures are taken to decrease the risk of falling in people who have been identified as being at risk. This makes fall and important part of IPSG goal.

Both effective fall injury reduction and any unexpected associated repercussions are measured and evaluated for outcomes.

5.1.6. Why fall is an important safety concern in older adults? (MedlinePlus, 2021)

Falls are the most common reasons of death and nonfatal injury in individuals over 65. Every year, one out of every three older community-dwelling individuals dies. All people who have fallen in the preceding year, or who have gait and lower limb muscular strength or balance problems, should have a multifactorial fall risk evaluation.

Lower extremity muscular weakness, gait and balance issues, impaired eyesight, fluctuating blood pressure, poor vision, cognitive impairment, psychoactive drugs or polypharmacy, footwear or foot difficulties, and environmental dangers are all risk factors for falling.

5.1.7. Risk factors (D. Sturnieks, 2016)

Below stated are the most usual potential auses for falls among inpatients, as documented in recent surveys:

Any past fall, instable walk, agitation and/or confusion, new urinary incontinence or frequency, adverse drug reactions, advanced age (>85 years), male sex, a subsequent fall, locomotion instability, agitation and/or confusion, new urinary incontinence or frequency (especially associated with psychotropic drugs), and neuro cardiovascular instability (most notably orthostatic hypotension).

Falls risk scores were developed using a combination of risk variables in the hopes of focusing preventative efforts on a preferable amount of inpatients who are more vulnerable of falling. The highly frequently tested instruments, on the other hand, are not sensitive enough to be useful. According to current National Institute for Health and Care Excellence advice, all admitted patients more than the age of 65, as well as those between age 50 to 64 years, are recognized to be at a greater risk of falling, known as the vulnerable group at risk.

5.1.8. Is it possible to avoid hospital falls? (Karim, 2016)

A thorough evaluation can be done which is short and in specific treatments such as 'high risk' wristbands and signages at bed, medication reviews, urinalysis, and regular vitamin D prescriptions aren't proved to be not effective for lowering episodes of fall.

The usage of movement alerts (bed or chair alarms) has not proven helpful in lowering rate of falls, despite its conceptual appeal. When the complicated many reasons of risk are recorded for assessment and is managed through applicable treatments, as in community-based trials, more hopeful findings are observed.

Multifactorial assessments linked to appropriate interventions have consistently suggested that they can reduce hospital falls by 20–30%.

Similarly, providing aids with movement (sticks and walking frames), reducing clutter, providing clear (pictorial) signs, and paying attention to right shoes, spectacles, and use of appropriate hearing aids are all easy methods to minimize the possible impact of risk factors in environment.

5.1.9. How to calculate risk for fall in inpatients (SAGE, 2019)using Morse Risk Score? (Table 3: Morse Fall Risk Assessment)

S.No.	Areas of Risk	Numeric Value	
1	History of falling	Yes No	25 0
2	Secondary diagnosis	No Yes	0 15
3	Ambulatory aid		
	• None/bedrest/nurse assist • Crutches/cane/walker • Furniture		0 15 30
4	IV or IV access	No Yes	0 20
5	Gait • Normal/bedrest/wheelchair • Weak • Impaired		0 10 20
6	Mental Status • Oriented to own ability • Overestimates or forgets limits		0 15

Morse Fall Risk Assessment		
Risk Factor	**Scale**	**Score**
History of Falls	Yes	25
	No	**0**
Secondary Diagnosis	Yes	15
	No	**0**
Ambulatory Aid	Furniture	30
	Crutches / Cane / Walker	15
	None / Bed Rest / Wheel Chair / Nurse	**0**
IV / Heparin Lock	Yes	20
	No	**0**
Gait / Transferring	Impaired	20
	Weak	**10**
	Normal / Bed Rest / Immobile	**0**
Mental Status	Forgets Limitations	15
	Oriented to Own Ability	**0**

Secondary diagnosis

Consider the following variables that may raise your risk of falling as a result of numerous drug issues:

- Illness/multiple medicines
- Vision problems

• Infections, increased urination, and restlessness are some of the adverse effects.

Ambulatory Aid

- If necessary, use an ambulatory assist at the patient's bedside.
- Patient consultation
- Examine the risks of ambulatory assistance made of furnishing or hospital equipment.

IV Therapy/Heparin (Saline) lock

• Establish a toileting/rounding schedule;

• Inform the patient that he or she should call for assistance with toileting; and

• Discuss the potential negative effects of IV medications.

Gait

- Assist the patient in getting out of bed.
  - Try consulting with a patient.
  - Normal
  - Weak
  - Impaired

Mental Status

- Use a bed/chair alarm
- Encourage family presence

Fig 39: Fall prevention checklist

- Do frequent rounding
- Place patient in visible location

-Normal

5.1.10. - Overestimate Fall risk screening tools

1. **Universal fall precautions**
2. **Fall risk factor assessment**
3. **Fall risk assessment tools**

In Medanta:

- Nursing risk assessment form
- IP Initial assessment form

Table 4: Sample Risk Level (SAGE, 2019)

Risk Level	Morse Fall Score (MFS)	Action
No Risk	**0-24**	Good Basic Nursing Care
Low Risk	**25-50**	Implement standard fall prevention interventions
High Risk	**>=51**	Implement high risk fall prevention interventions

5.1.11. Admission checklist for ward (HDU) Fall risk identification (Physiopedia, 2015)

Although fall risk prediction systems are widely used, their effectiveness in hospital fall prevention programmes is debatable. To begin, it's critical to understand the difference between assessments of fall and prediction or screening of fall techniques. The majority of risk assessments comprises of a checklist of risk of fall indicators, but they don't assign a score or value to the patient risk of fall.

These recognized risk indicators are used by predictive systems to create a value for the patient's likelihood of having falls, with set limits to determine level of risk.

5.1.12. Fall risk Prevention (Information, 2013)

Fall risk management: (Morris, 2017)

Examples of Universal Fall Precautions

1. Clear Pathways
2. Wipe up spills immediately
3. Provide access to call bell
4. Provide non-skid footwear

Implement universal fall precautions

- Training hospital staff
- Educate and interact patients about it
- Fall prevention culture

5.1.13. IPSG (International Patient Safety Goals) (Siddiqui, Feb 2018)

Goal 1: Identify patients correctly.

Goal 2: Improve effective communication.

Goal 3: Improve the safety of high-alert medications. Goal 4: Ensure safe surgery.

Goal 5: Reduce the risk of health care-associated infections.

Goal 6: Reduce the risk of patient harm resulting from falls.

5.1.14. Features of risk factor Assessment (Jennifer H LeLaurin, 2019 May)

- Identify patient at risk
- Education
- Assists in medical decision-making
- Informs tailored preventative measures, care plans, and communication methods
- Connects plans to mitigate recognized health risks

5.1.15. Goals for fall risk management include:

(1) reduce the chances of falling,

(2) reduce the risk of injury,

(3) maintain the highest possible level of mobility, and

(4) ensure ongoing follow-up.

Limitations

- No perfect predictability
- Low risk need some intervention too

Recommended Interventions

- Use of safety precautions
- Document circumstances of preventive falls
- Use a plan of care, a change of shift report, and signs to communicate risk status.

5.2 SECTION 2: Research Methodology- This study was carried out and following are the details-

Research question- What is the compliance of IPSGs 6 (fall prevention) in the Inpatient wards?

Research objective-

- To assess the knowledge of patient about falls
- To assess the compliance of International Patient safety Goals 6: fall prevention in wards.
- To improve the knowledge and compliance of IPSG 6 (fall prevention) in nursing staff.

- *Study type*: Cross-sectional analytical study.
- *Study Area*: Following areas in Medanta the Medicity Hospital-
  - 12th "A-wing" Urology institute
  - 11th A wing- Digestive and Hepatobiliary institute
  - 12th B wing- Nephrology institute
- *Study Duration*: 11th June 2021- 26th June 2021
- *Sample Size-* 65 patient interviews and 65 observations and audits.
- *Method of Data collection*: Primary data was collected through paper-based interviews, ward audits, and observatory checklists.
- *Sampling Method*: Convenient Sampling.
- *Study tool*: Questionnaire

https://docs.google.com/forms/d/e/1FAIpQLSdghHQ3kaR4ctdmj6Y_UGdwAH-arS7yrSgL0GKzPLoFOuYd2Q/viewform

- *Sampling procedure:* In the 1st phase, data was collected from the inpatients of different floors on the paper-based questionnaire. In the 2nd phase, different ward audits and observations were done to check the compliance
- *Type of respondents:* Inpatients

1. To check the knowledge of patients-

To check the knowledge of inpatients about IPSG guidelines, a questionnaire was developed consisting of 12 questions related to IPSG standards and patient details taking reference from checklist in audits present on Electronic Medical Record. Paper-based interviews were carried out in different wards.

Table 5: Division of questions used in study tool used to check knowledge of patient

Division of questions used in study tool used to check knowledge of patient	
Question based on	**Question no.**
Patient's Knowledge of fall	1
Attendant's Knowledge of fall	2

2.To check the compliance of International Patient Safety Goals 6-

Table 6: Division of questions used in study tool for fall prevention audit

To check the compliance, different strategies were planned according to the specific goal. These are as follows-

IPSG 6: Reduce the risk of patient harm resulting from falls.	Fall prevention audits
Question based on	**Question no.**
Fall video shown	12
Fall poster in patient's room	4
Triangular Bed tag/signage showing patient at higher fall risk	10
Presence of Blue hand band showing patient at higher fall risk	3
Nursing staff gave education to patient and attendant	11
Fall reassessment/assessment	6,7,8,9
Fall risk status on Whiteboard	5

Question based on	**Question no.**	**Interpretation**
Fall video shown	12	**Bed Audit**
Fall poster in patient's room	4	
Triangular Bed tag/signage showing patient at higher fall risk	10	
Presence of Blue hand band showing patient at higher fall risk	3	
Fall risk status on Whiteboard	5	
Nursing staff gave education to patient and attendant	11	Education/awareness audit among inpatients

Fall reassessment/assessment	6,7,8,9	Fall risk Assessment Audit

Table 7: Interpretation for division of questions used in study tool

5.3 SECTION 3: Findings and Analysis

1. Fall Risk Assessment Audit

Interpretation: There is documentation done in patient's file about fall risk status which should be updated at regular intervals or as per change in patient condition.

First, initial assessment of the patient is done at the time of admission and fall risk status is updated. Next, it is updated as per every shift as the nursing staff changes and thirdly, fall reassessment done with change in patient condition.

20% (13 times) fall risk assessment was not done correctly while 80% (52 times) was done correctly.

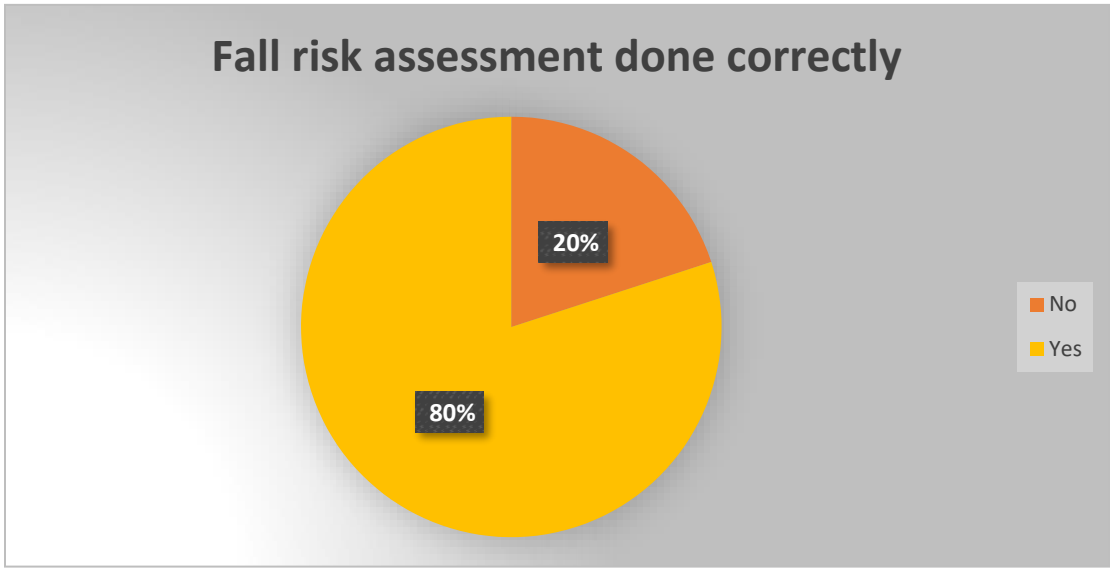
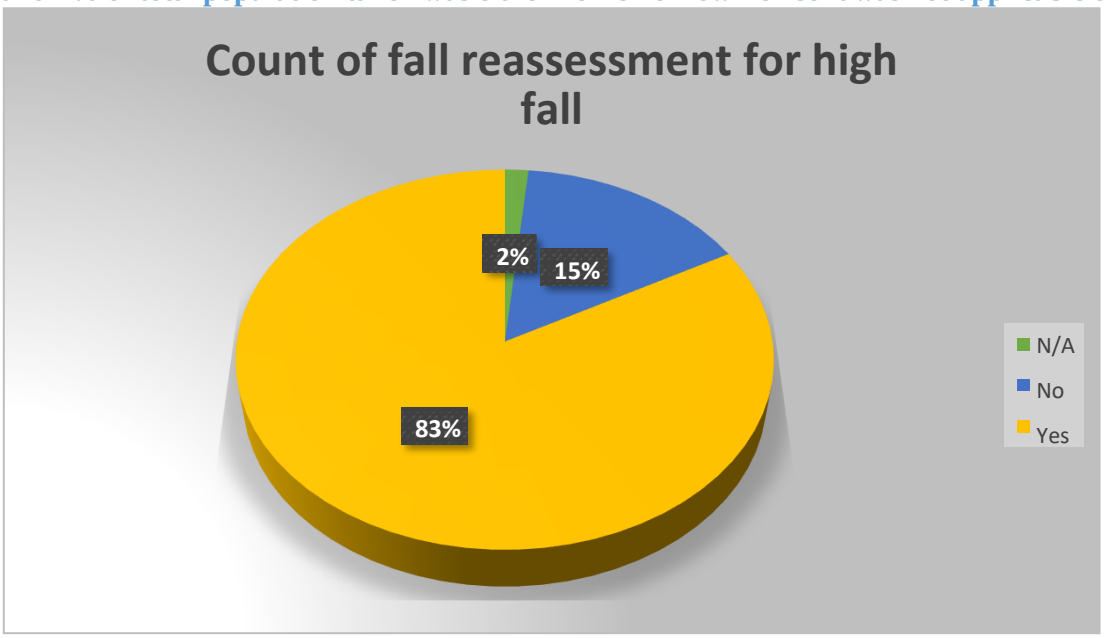


Fig 40 showing fall risk assessment done correctly

15% (10 times) fall risk assessment for high fall was done in every shift while 83% (54 times) was done and 2% of total population taken was either no risk or low risk so it was not applicable on



them.

Fig 41 showing fall reassessment for high fall patients done in every shift

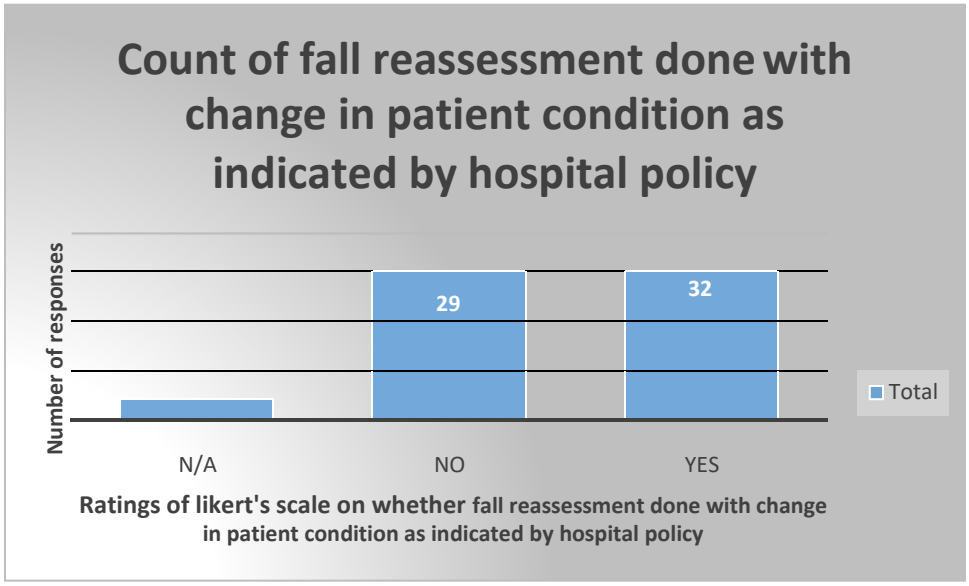


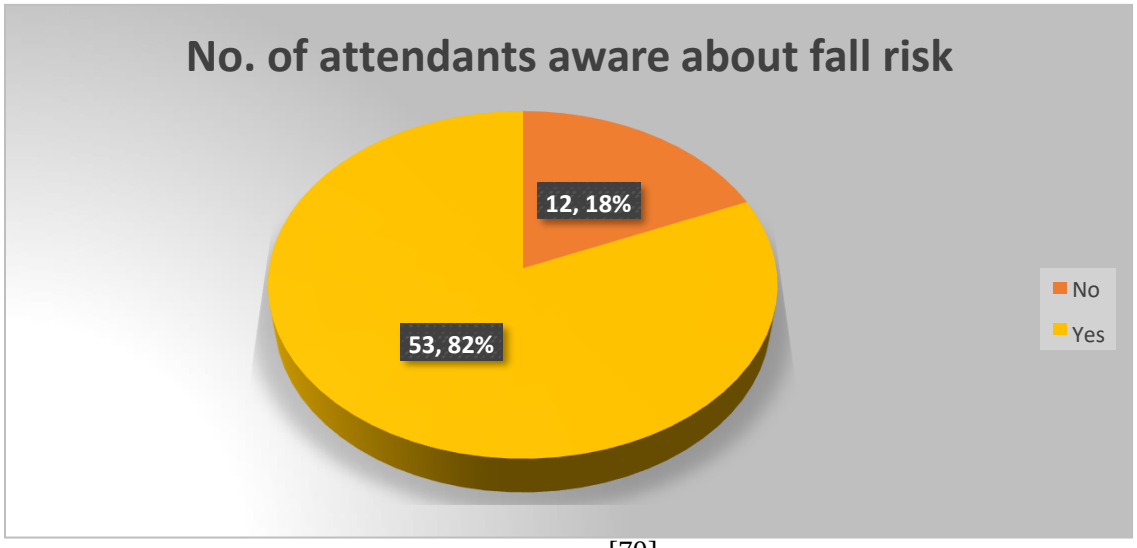
Fig 42 fall reassessment done with change in patient condition as indicated by hospital policy

Fall reassessment done with change in patient condition as indicated by hospital policy was done only 32 times out of 65 times while 4 times it was not applicable as the patient condition was same in 4 cases.

2. **Education and awareness among patients and attendants**

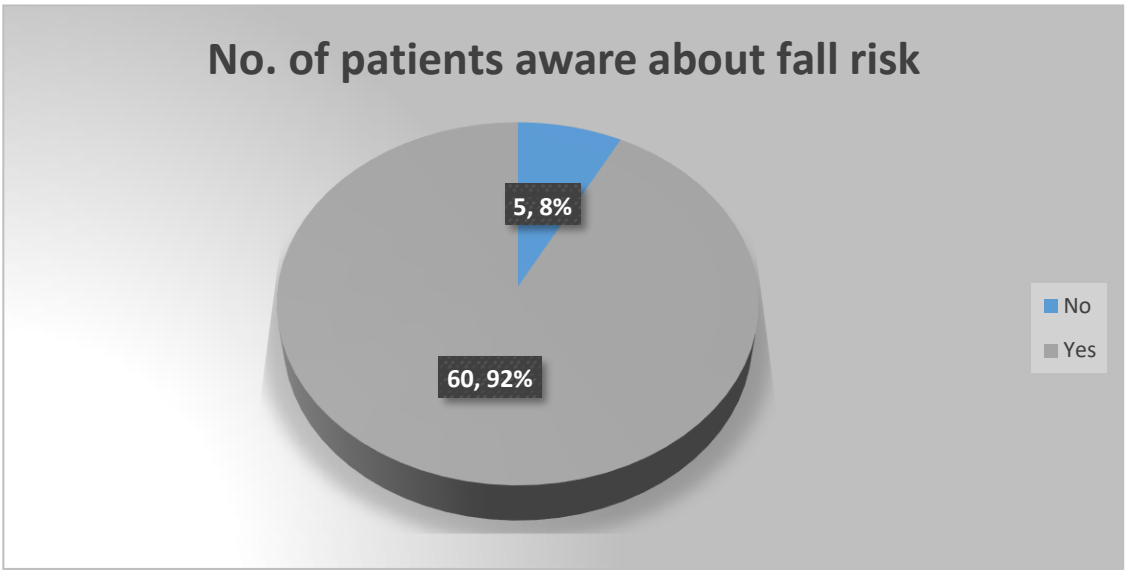
Patients and attendants were asked about they being aware about fall risk and patients and attendants were asked if nursing staff has given education to them about fall risk prevention.

Fig 43 showing no. of attendants aware about fall risk



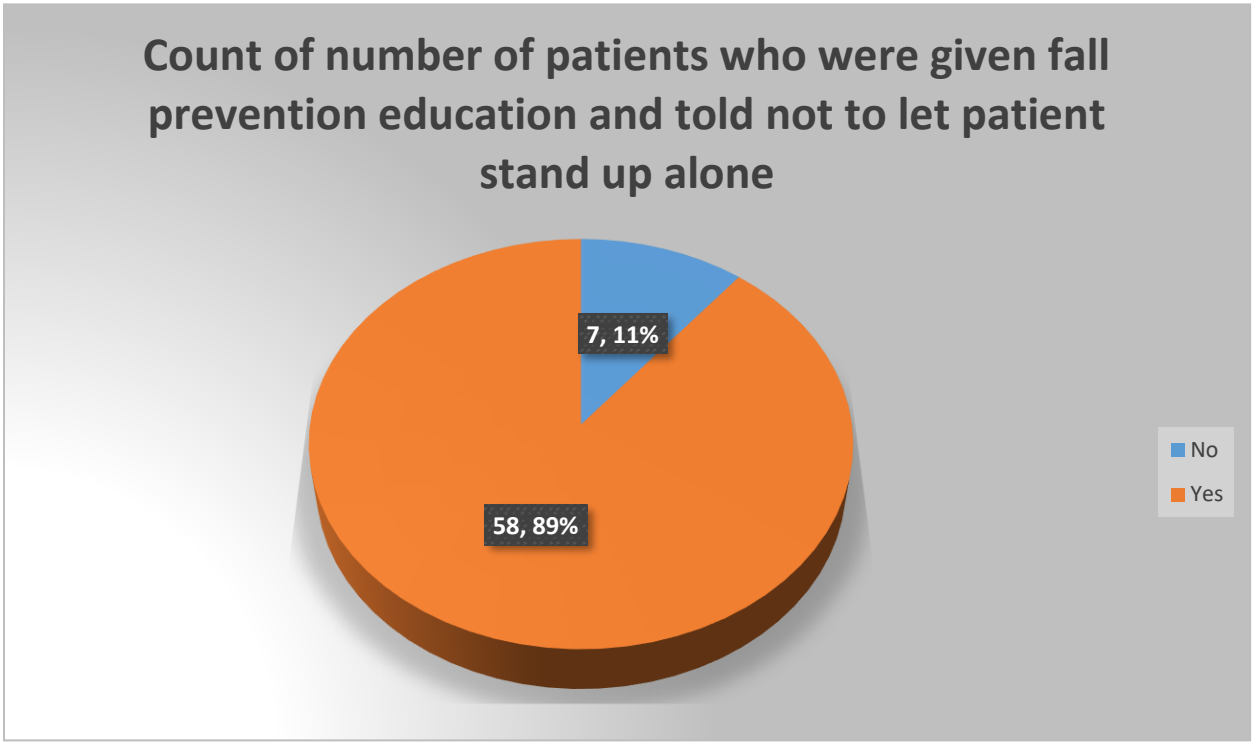
Out of 65 responses, 18% (12 respondents) attendants were not aware about fall risk while 82% (53 respondents) were aware.

Fig 44 showing no. of patients aware about fall risk



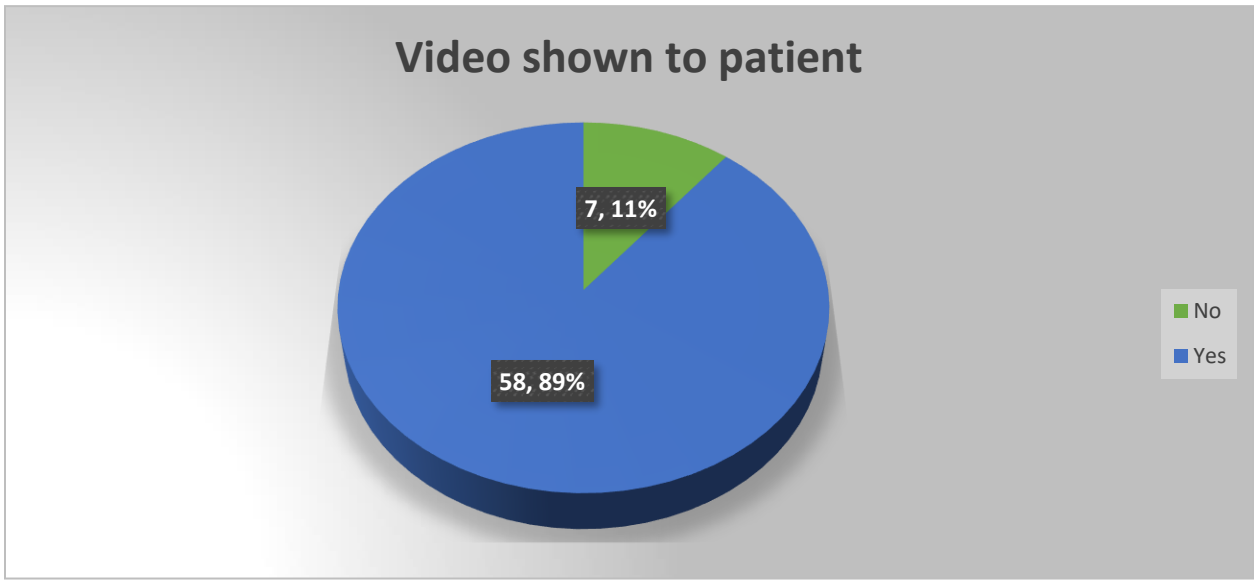
Out of 65 responses, 8% (5 respondents) attendants were not aware about fall risk while 92% (60 respondents) were aware.

Fig 45: showing number of patients who were given fall prevention education and told not to let patient stand up alone



Out of 65 responses, 89% (58 respondents) attendants were given fall prevention education while 11% (7 respondents) were aware.

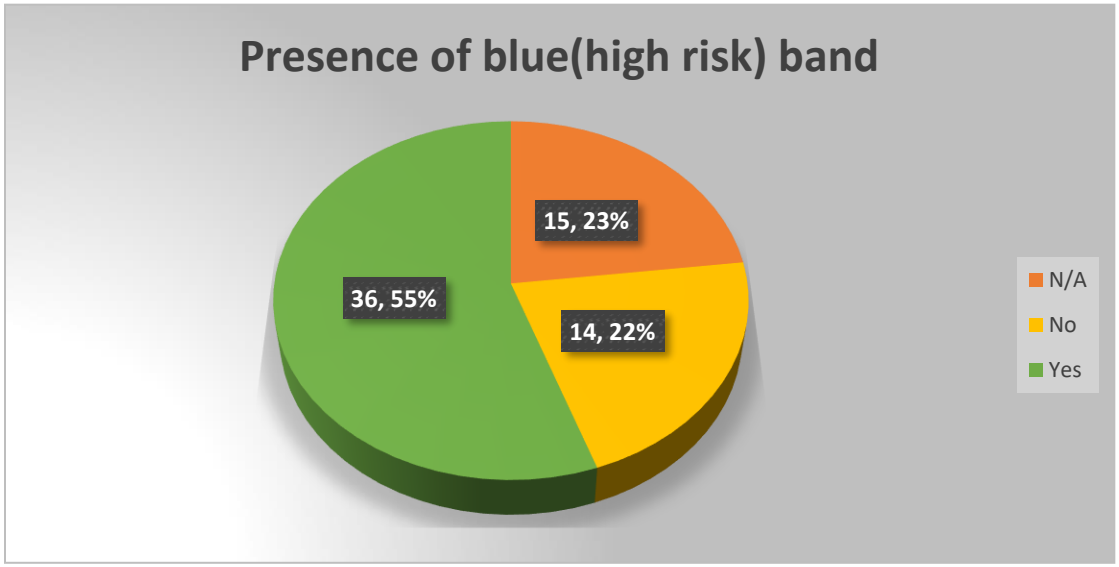
Fig 46 showing fall risk prevention video shown to patient by nursing staff



Out of 65 responses, 89% (58 respondents) patients were shown fall prevention video while 11% patients (7 respondents) were not shown.

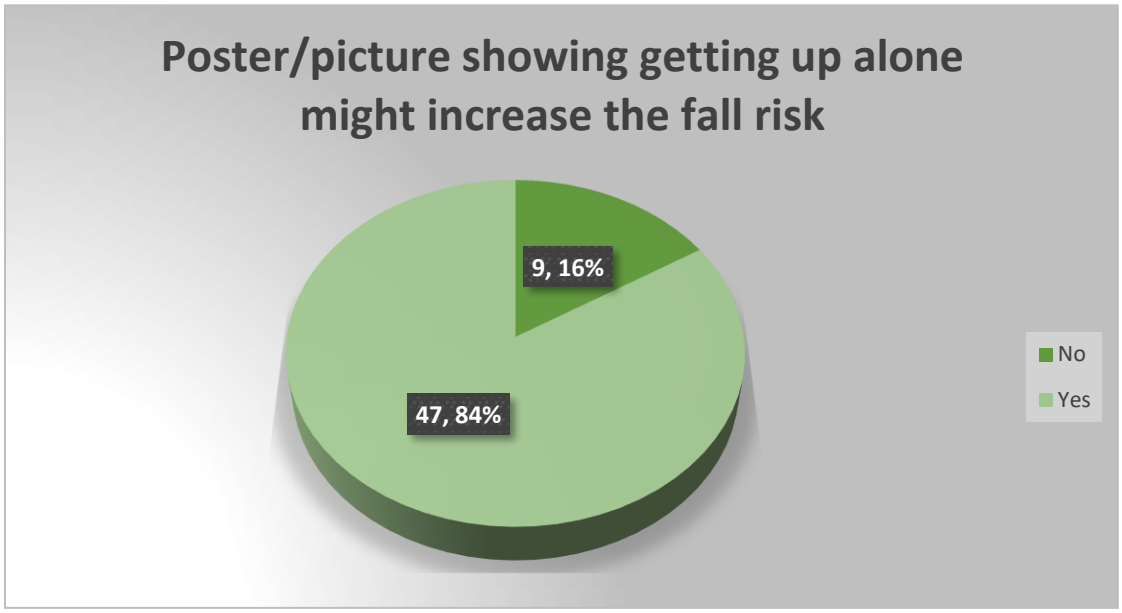
3. Bed Audit of patient safety

Fig 47: showing presence of blue band on patients' wrists



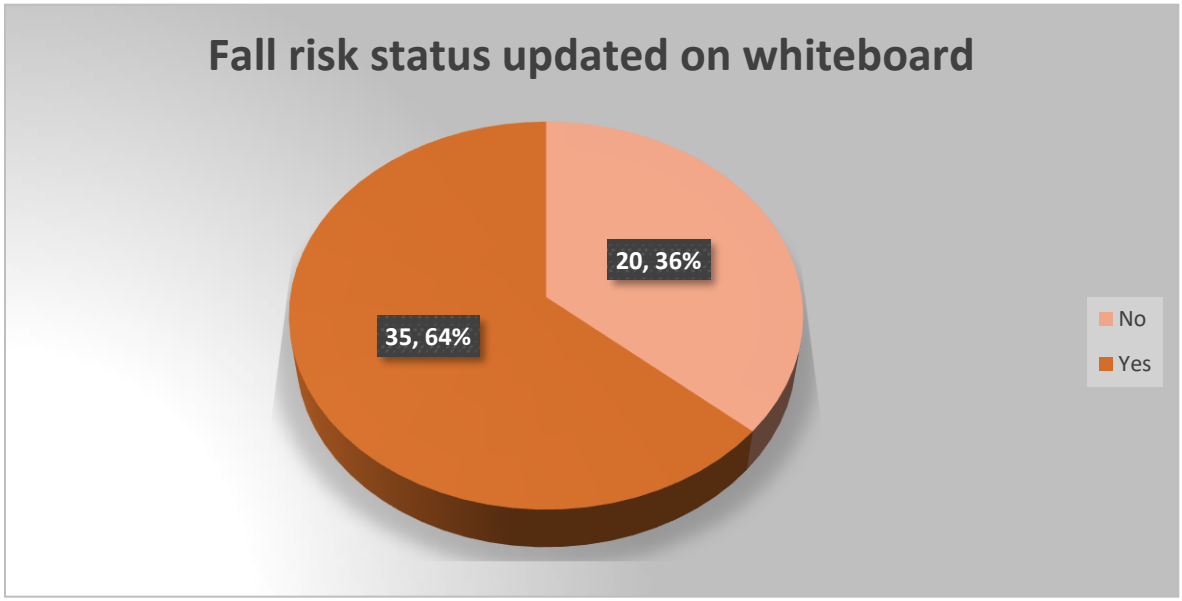
Out of 65 responses, 55% (36 respondents) patients had blue band (high risk) on their wrists while while 22% (14 respondents) did not have and 23% (15 respondents) patients assessed were not high risk patients so it was not applicable to them.

Fig 48 showing presence of poster on patients' room



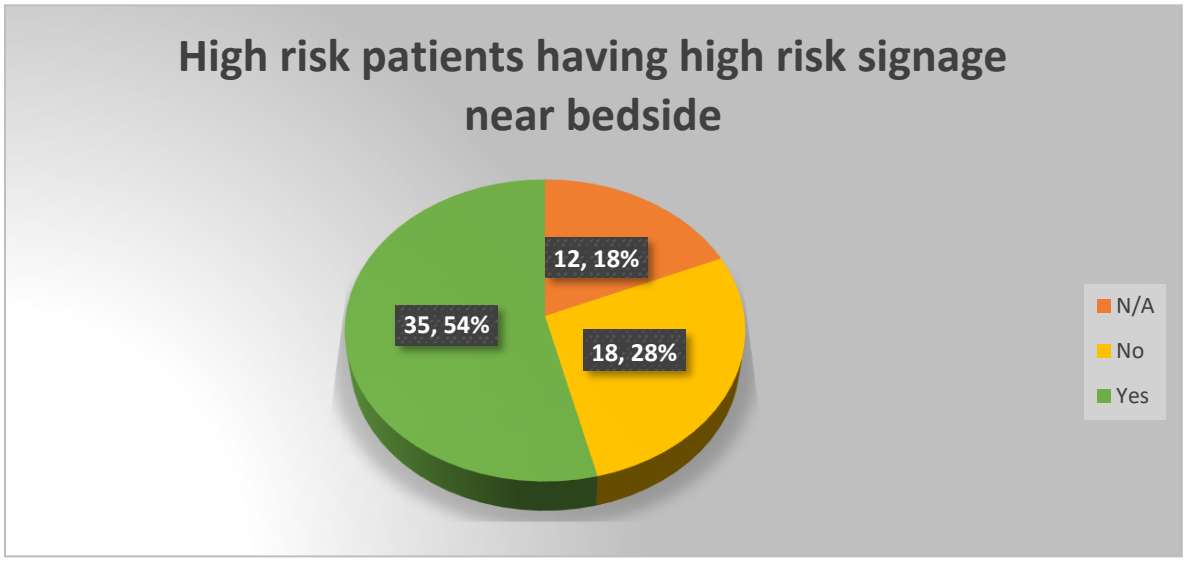
Out of 65 responses, 84% (47 respondents) patients' room had poster for fall prevention in their room while 16% (9 respondents) did not poster in thei rooms.

Fig 49 showing fall risk status updated on whiteboard



Out of 65 responses, 64% (35 respondents) patients' fall risk status updated on whiteboard while 36% (20 respondents) did not have updated status on whiteboard.

Fig 50: showing high risk patients having high risk signage near bedside



Out of 65 responses, 54% (35 respondents) patients' room had signange of high risk of fall while 28% (18 respondents) did not have and on 18% (12 respondents) it was not applicable as those patients were not on high risk.

5.3.1. Discussions

A study on fall risk assessment and education was conducted and 65 patients and audits were done. The study was divided into three parts as follows:

i) Education and awareness among patients and attendants

- ✓ Whether patients were knowing about fall risk.
- ✓ Attendants' awareness about fall risk
- ✓ Nursing staff provided education about fall risk prevention.

COMPLIANCE: 92% patients and 82% attendants were aware about fall risk while 89% patients were given fall prevention education and told not to let patient stand up alone by nursing and staff and 89% were shown video.

NON-COMPLIANCE:18% patients and 8% attendants were not aware about fall risk while 11% patients were not given fall prevention education and not told not to let patient stand up alone by nursing and staff and 11% patients were shown video.

ii) Fall risk assessment Audit

s of documents were assessed which are as follows:

- ✓ Initial Fall risk assessment done at the time of admission.
- ✓ Fall risk reassessment done in every shift of nursing staff in Nursing Risk Assessment form
- ✓ Fall risk reassessment done with change in patient condition.

COMPLIANCE: 80% fall assessment was done correctly while 83% fall reassessment was done in every shift while only 49% fall reassessment was done with change in patient condition.

done correctly while 15% fall reassessment was done in every shift while only 45% fall reassessment was done with change in patient condition.

iii) Bed audit of patients' safety:

Parameters studied:

- ✓ Fall prevention poster in room.
- ✓ Latest fall risk status updated on whiteboard as mentioned in patient's documents.
- ✓ Presence of High risk(blue) band on patient's wrist for high-risk patients

- ✓ Presence of Bed signage for high-risk patients

COMPLIANCE: 55% had blue bands and 84% rooms had poster showing fall risk and avoiding getting up alone while 64 % patients had fall risk status updated on whiteboard and 54% high risk patients had bed signages.

NON-COMPLIANCE: 22% did not have blue bands and 16% rooms did not have poster showing fall risk and avoiding getting up alone while 36 % patients did not have had fall risk status updated on whiteboard and 28% high risk patients did not have bed signages.

5.4 SECTION 4: Conclusion

Falls are usual but consists of unpleasant results, despite the fact that they can usually be avoided. According to current guidelines, primary care practitioners can screen elderly for risk of fall at least yearly by enquiring about past episodes of falls and unsteadiness during walking.

Various treatments that caters numerous pre-existing variables are meant for high risk persons and can prevent episodes of falls by up to 25%.

Balance, medicines, and home safety are three major risk factors that puts people at increased risk should be addressed.

Physicians at primary care centers can direct patients to medical and community programmes to cater risk factors that are modifiable, and in hospitals, proposed essential actions should be implemented.

5.4.1. Recommendations to avoid falls:

For hospital:

- On admittance, check for the danger of falling.
- Upon admission, check for fall-related injury risk factors and history.
- Assess the likelihood of physiological falling and the possibility of significant harm as a result of a fall.
- Patients' fall and injury hazards should be communicated and educated to personnel and patients.
- Ensure that interventions for patients who are at risk of falling are consistent.
- Individualize treatments for patients who are most at risk of sustaining a fall-related injury.

For nursing staff:

- Hourly rounds to update fall risk status on whiteboard and bed signage.
- Documentation within 2 hours of admission so as fall risk is updated.
- Weekly rounds by nursing supervisor to ensure compliance.

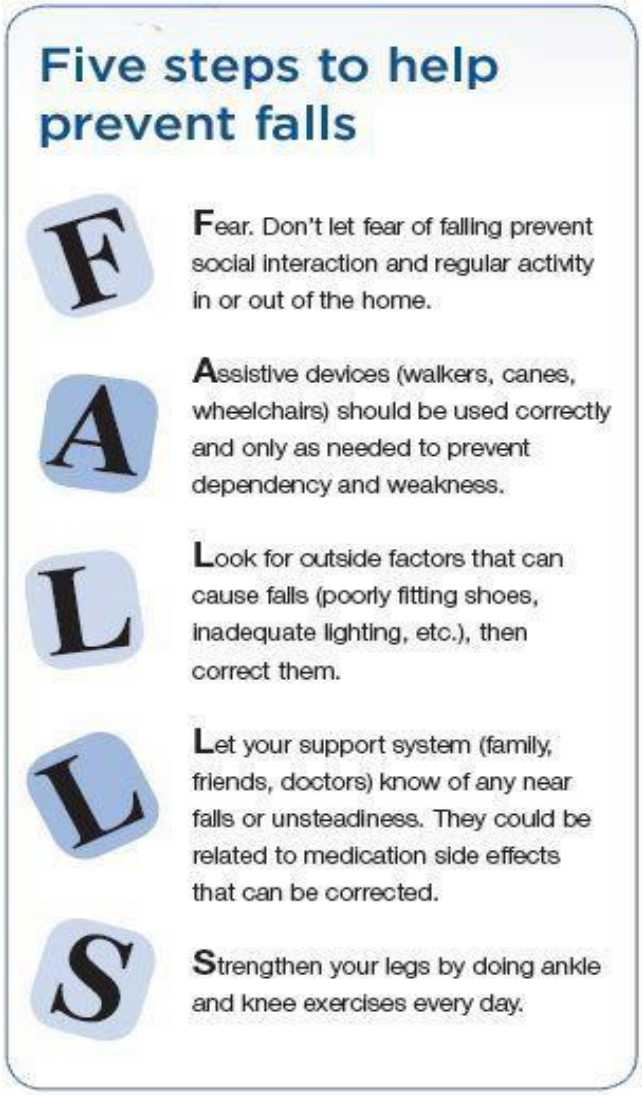
- Surprise check by nursing staff to ensure necessary compliance.

1. Louder personalized Alarms

Alarms are intended to prevent falls as it notifies personnel when persons try to leave their beds or chairs without help. It acts as a warning to individuals to seek assistance before getting up. Alarm systems include friction mats, infrared movement detectors, cord-activated alarms, and wearable devices.

Alarms are inconvenient, and they can be very unpleasant to persons with cognitive impairment, causing confusion and worry.

2. Frequent rounds:



Many hospitals have implemented purposeful rounding to reduce risk and improve satisfaction of patient and decrease . Rounding is a proactive method to managing patient requirements that entails regular bedside assessments, typically in almost two hours.

Rounding programmes have been plagued by problems with adherence and sustainability, and their implementation is frequently viewed as a top-bottom method that limits staff autonomy. Increased working hours, tough objectives, insufficient record keeping, limited education, and a lack of staff buy-in are some of the other roadblocks.

As a result, even if further proof of rounding's effectiveness emerges, the technique's viability as a long- term fall prevention strategy remains in doubt.

3. Monthly training of nursing staff and quick feedbacks

Once a month, a small training session providing handouts with quick shorts tips can help them retain the information for fall risk prevention better. This will improve their memory and help them stay updated. A quick questionnaire can be asked to fill to test knowledge and know their behavior and it is a good way to impart knowledge and encourage behavior change in nursing staff if necessary.

5.4.2. TRAINING MODULE suggestions for imparting education about fall risk and prevention to nursing staff

*Training pamphlet attached in email separately

A five page information booklet was designed for quick reference in brief for nursing staff.

A monthly training session could be arranged keeping in mind about highlighting precautions and prevention of fall risk and how to minimize risk in brief.

Fall Prevention Lessons Learned

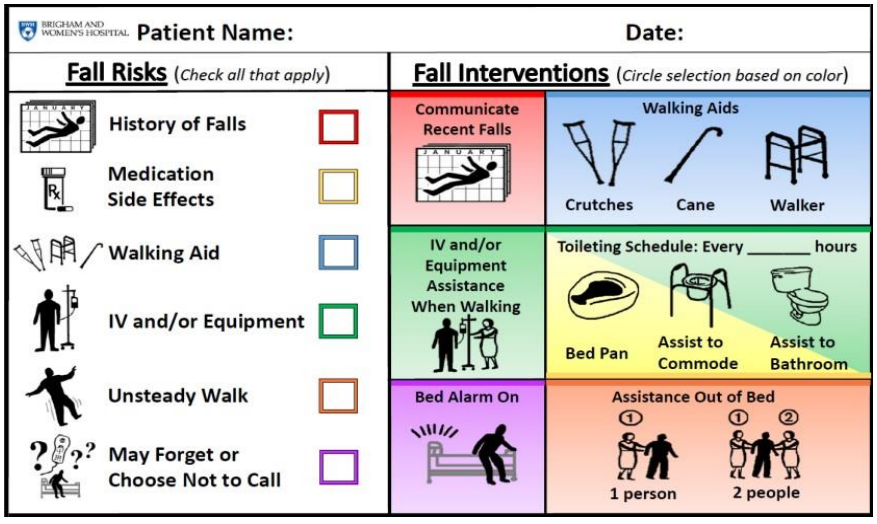
Y aring:

- y ı think they are, and what do

- Do you have any guidelines for what you should do if a patient falls?

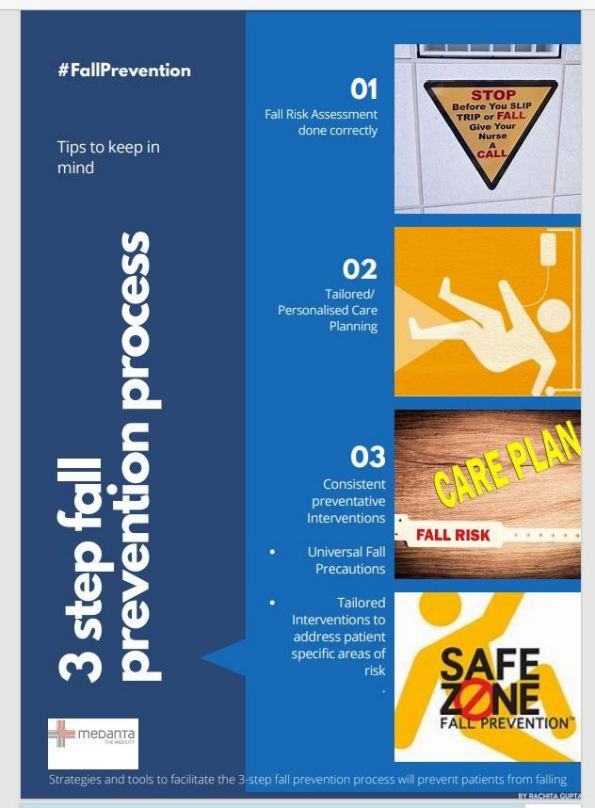
Use "survey" questions to get the conversation started and build on prior knowledge:

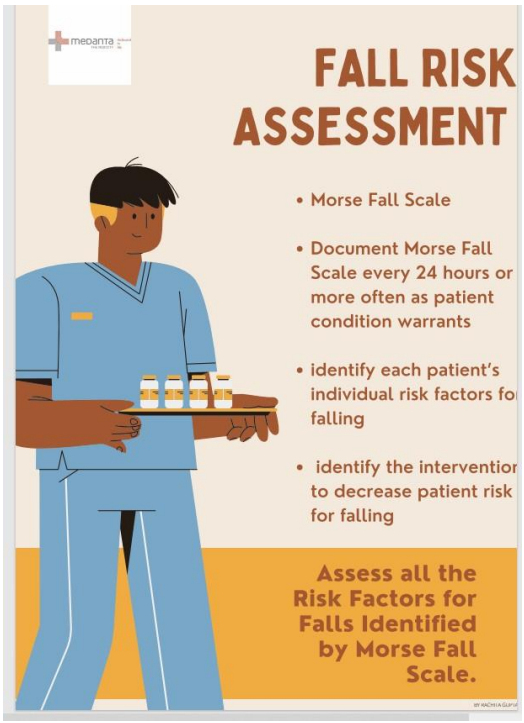
- If that's the case, could you offer an example of one of the rules?
- You could encourage nurses to come up with fall prevention techniques for patients who have a history of falling.



Putting such posters near bedside or near the nursing station:

5.4.3. Training Aid (Handout) for Nursing Staff





RISK FACTORS FOR FALLS IDENTIFIED BY MORSE FALL SCALE
Fall Prevention
1 History of falling
2 Secondary diagnosis —Associated with incontinence, vision problems, multiple medicines, orthostatic hypotension
3 Ambulatory aid
4 IV therapy/heparin (saline) lock
5 Gait
6 Mental status
FALL RISK ASSESSMENT (FRA) AND REASSESSMENT ACTS AS A MAJOR FACTOR TO PREVNT FALL
Source: Morse, JM. Predicting Patient Falls. CA: Sage Publications, 1997
medanta

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