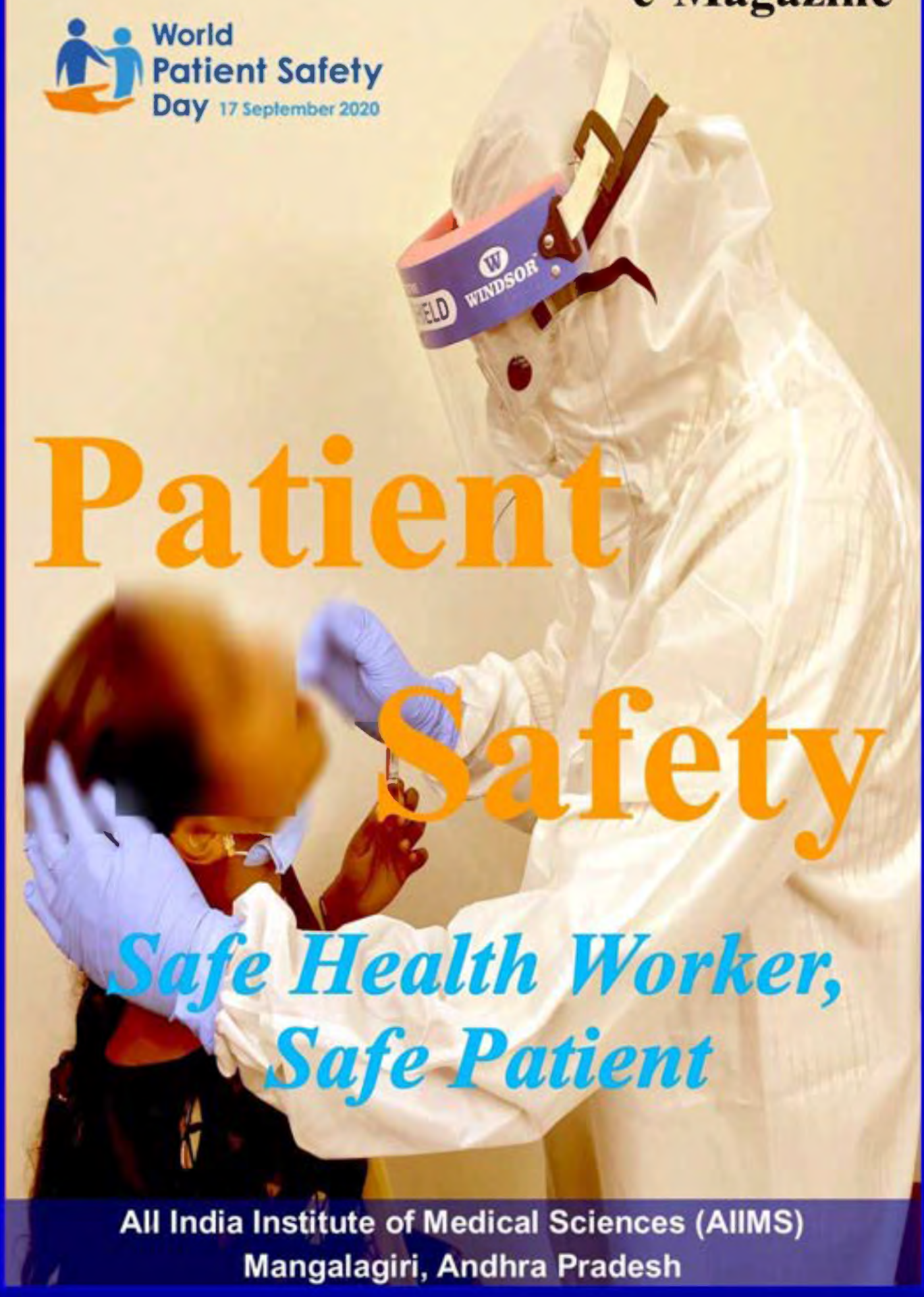
e-Magazine

World Patient Safety Day 17 September 2020



Patient Safety

Safe Health Worker, Safe Patient

All India Institute of Medical Sciences (AIIMS)
Mangalagiri, Andhra Pradesh

Prologue

THE HINDU

Prof. (Dr.) T.S. Ravikumar

Member, WHO Global Patient Safety Curriculum Committee

The deaths of many medical professionals from COVID-19 can be ascribed to 'avoidable harm' in medical parlance. During lockdown in late March, I got an e-mail from a friend and surgeon colleague in New York: a mutual friend of ours and a remarkable paediatric neurosurgeon, James Goodrich, had just died of COVID-19. He had contracted the disease while working in the frontline. As a surgeon, he had gained global recognition for his seminal work on conjoined twins (craniopagus twins, joined at the brain). He was the pride of Montefiore Medical Centre, Albert Einstein College of Medicine, New York, where I was surgeon-in-chief. The painful sensation a patient feels in a limb that has been amputated (sometimes long after the limb is gone) goes by the clinical term "phantom pain". I couldn't help but feel an emotional "phantom pain" with the passing of my friend. As healthcare professionals, we all experience this phantom pain when we hear about the loss of a colleague. A high-profile report relating to the head of the emergency department of a noted New York hospital had an even sadder ending-death by suicide after suffering from COVID-19 and recovering, yet dying of anguish from her predicament over the numerous patients she could not cure. Perhaps the face of the disease shall remain Li Wenliang, who raised the alarm of an atypical viral pneumonia in Wuhan as early as December 2019, and later died of corona- virus at the hospital he worked. Challenge at the frontline Reports from around the world provide a rather grim picture of the challenges faced by frontline health workers who dedicate their lives to save others. By any count, we have lost thousands of these heroes doctors, nurses, emergency technicians and other health workers, to this pandemic. While the loss of some may be seen as unavoidable, the loss of many can be as-

ascribed to "avoidable harm" in medical par- lance, where the WHO has set a goal of "zero harm". News from the early stages of the pandemic sounded alarm that hospitals lost many of their doctors and nurses in Wuhan and Italy - as many as 20%, from sickness, burnout and post- traumatic stress disorder. Reports from subsequent months also suggest that around 20% of health workers may be infected. In India, an April ICMR report says that of one million tested, 40,186 tested positive, of which 2,082 (5%) were healthcare workers. Extrapolating the re- port to 6,50,000 cases in India, currently about 30,000 healthcare workers may have contracted the virus. Based on recent death rate, there is likely to be about 800 deaths among health workers. Loss of such life has many dimensions: each life means a loved one, and each loss a huge deduction from valuable healthcare human resource. In countries with a high number of corona virus cases, India has one of the lowest density of nurses and physicians. So, a toll on health workers poses a clear and present danger in times of COVID. The collective departure of our colleagues leaves a void, attenuates our morale, and will stay with

us as “phantom pain”. Relief from such phantom pain signifies larger wellbeing in society, and can come from addressing the safety of frontline health personnel.

A prescription

I am hoping that this year’s apt theme of “health worker safety” for World Patient Safety Day, September 17, by WHO will generate sustainable solutions, including establishment of a global repository of health worker mortality and adverse outcomes, paired with mitigation strategies. Many healthcare workers continue to per- form their duties despite extreme hardships. First, due to their dedication and commitment (this is why they chose the profession in the first place), they endure extreme stress, trials and tribulations of losing patients, getting infected and passing deadly infection to loved ones at home. Second, they do not wish their colleagues to be overburdened by not doing their own bit and take on more than what is optimal. And third, and most unfortunately, they suffer in silence, enduring long duties, even without proper personal protective equipment, unable to raise their voice for fear of retribution. There are many more factors, but these salient three require disparate, but overlapping strategies and tactics. The first factor requires more effective psychosocial support systems for healthcare professionals, not only doctors and nurses, but also all frontline workers. Often, as healthcare professionals, we maintain “stoicism” and do not convey our anguish and internal conflicts, until it precipitates into depression, burnout and other stress disorders such as PTSD and perhaps most painfully, suicide. The second factor requires system planning and duty roster design, with the moral compass of empathy for healthcare workers, and not imposing harsh work hours by coercion or financial incentives alone. Effective patient-centred care requires facilitation of collective decision-making with care continuum teams. The third factor requires robust mechanisms to capture the voices of health workers and address concerns systematically and in real time, in a “blame-free” culture. Provision of effective personal protective equipment (PPE) and training are a major short- coming across the world, India no exception. Despite ramping up of efforts in India, demand may outstrip supply due to rapid rise in COVID-19 and the looming threat of a second wave. Since this is in our collective control, there shall not be any excuses for not providing adequate PPEs to frontline heroes. While we prepare an offence against SARS-CoV-2 with vaccines and new treatments, strengthening our frontline is a great defense to save lives and mitigate human suffering.

JULY 05, 2020 00:43 IST

Message

Dr. Mukesh Tripathi
Director & CEO

अखिलभारतीयआयुर्विज्ञानसंस्थान
मंगलगिरि, आंध्रप्रदेश

All India Institute of Medical Sciences,
Mangalagiri, Andhra Pradesh

Ref: AIIMS-MG/DIR/244

Date: - 10.09.2020

MESSAGE

WHO has recognized to address the issue of Patient safety in hospitals and has declared 17th September as "World Patient Safety Day ". AIIMS, Mangalagiri e-Magazine has been a great success in its first edition on COVID-19 pandemic.

I congratulate Editorial board for all its effort to come out with its second edition on "Patient Safety Day".

I wish them all Success for their vision towards this Magazine in future.

Let us be part of this movement just not for Day but year by years, season by seasons.

Mukesh Tripathi

(Dr Mukesh Tripathi)
Director, AIIMS, Mangalagiri

Message

डॉ. (प्रो) गीतांजलि बतमानबाने, एमडी, पीएचडी
निदेशक
Dr. (Prof.) Gitanjali Batmanabane, MD, Ph.D.
Director

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संदर्भ संख्या/Ref.No AIIMS/BBSR/DIR/MS/65 दिनांक/Date 01/9/20

MESSAGE

I am extremely happy to pen a few lines for this undergraduate e-magazine of AIIMS Mangalagiri with the central theme of patient safety, which is being released to commemorate World Patient Safety Day on 17th September. Encouraging undergraduate medical students to start writing and thinking about patient safety at an early stage of their career will certainly go a long way in making them more aware of preventable medical errors and following a culture of safety and quality throughout their professional life. This is a very commendable initiative and I congratulate the Director of AIIMS Mangalagiri and the President of the institution for this innovative idea.

The theme of this year's world patient safety day is "Health Worker Safety: A Priority for Patient Safety" which is extremely appropriate, given the rising number of Health Care Workers (HCWs) infected with COVID 19 not just in India, but the world over. The present pandemic has opened our eyes to the safety of our own COVID warriors and has compelled us to do more in terms of educating, training, monitoring and motivating all levels of HCWs to do better so that they can take care of their safety.

In order to implement the National Patient Safety Implementation Framework, AIIMS Bhubaneswar constituted an AIIMS Bhubaneswar Quality Council (ABQC) about two years ago, which has eight separate groups working on the following areas of patient safety and quality of care: (a) Hospital Infection Control (b) Surgical Safety (c) Medication Safety (d) Medical audit (e) Communications (f) Facility Management (g) Sentinel Event Monitoring and (h) Fire safety. The members of each of these groups consist of faculty, nursing staff and technicians. A sensitization workshop was held in December 2018 with national and international faculty to plan and finalize the short and long term objectives of the eight teams. Professor T.S.Ravikumar, President of AIIMS Mangalagiri was one of the resource persons who participated in the workshop and gave the lead talk. Since then, the different teams of ABQC have taken their brief further and contributed in many ways to slowly improve the patient safety culture at AIIMS Bhubaneswar. We have also implemented a patient safety curriculum for undergraduate medical students and encouraged undergraduate and postgraduate students to take up research projects in patient safety.

I am happy that some of our faculty have chosen to contribute articles to this e-magazine. Working with the various AIIMS will help us learn from each other and allows us to showcase our activities. I am sure I will enjoy reading this edition of the magazine as much as I did when I read the previous one. My hearty congratulations to the editorial team.

(Dr. Gitanjali Batmanabane)
Director

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Message

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All India Institute of Medical Sciences, Raipur (Chhattisgarh)
प्रो. (डॉ.) नितिन म. नागरकर
निदेशक एवं सी.ई.ओ.
Prof. (Dr.) Nitin M Nagarkar
MS (PGI), DNB, MNAMS, FIMSA
Director and CEO,
Professor, Otolaryngology-Head & Neck Surgery

No. AIIMS.RPR /Dir/F.No.66/2020/296 Raipur, Dated: 07.09.2020

To

Prof. (Dr.) T.S. Ravikumar
President
AIIMS Mangalagiri

Subject: World Patient Safety Day edition e-Magazine.

Dear Sir,

Thanks very much for bringing out an e-Magazine on World Patient Safety day. My heartiest congratulations for this activity.

The topic chosen is very pertinent considering the safety of these Health Care Workers during the COVID-19 times.

I congratulate all the students, faculty members and staff for their whole hearted participation.

My best wishes to you and your team at AIIMS Mangalagiri.

Thanks & regards,

7.9.2020

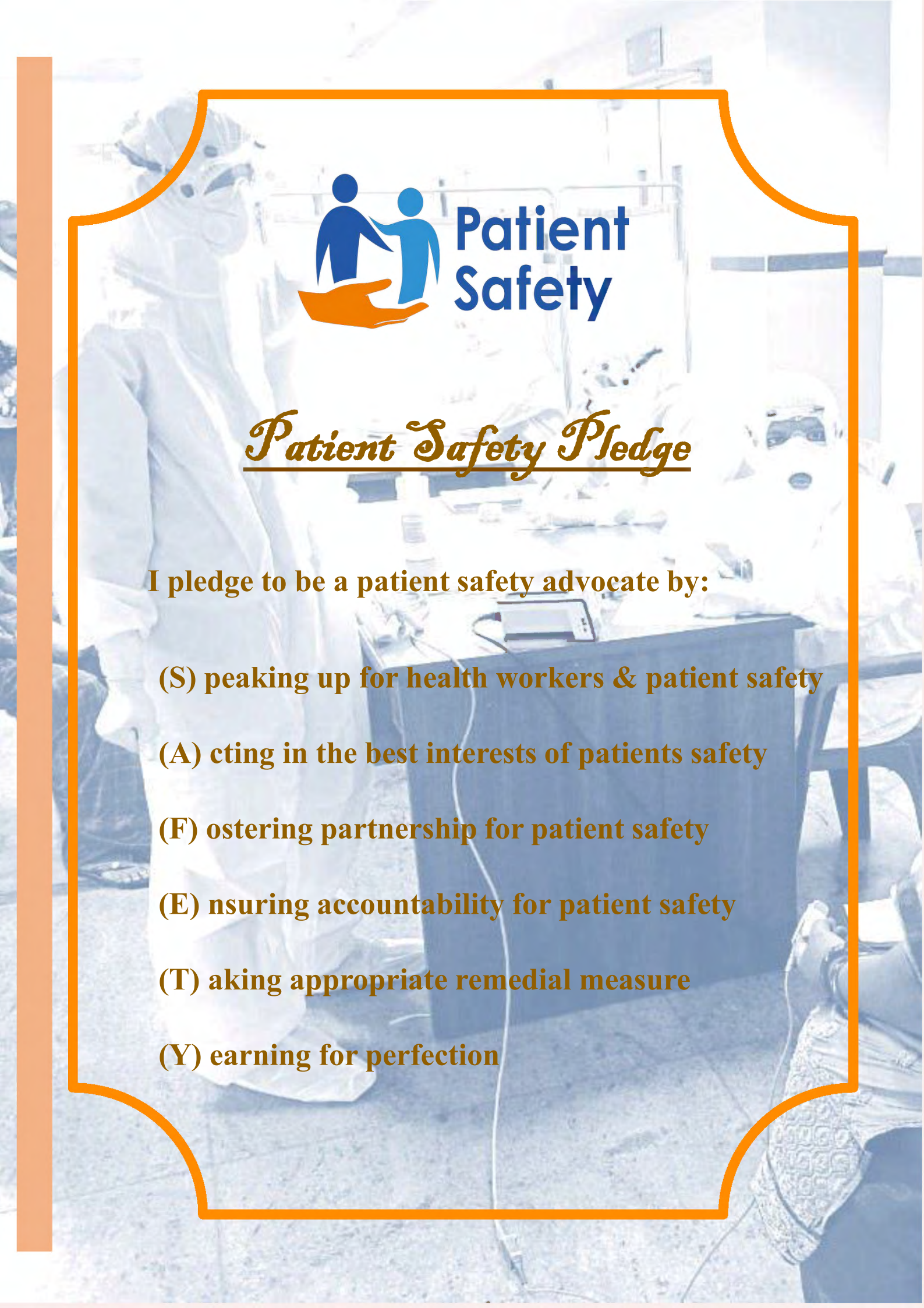
Prof. (Dr.) Nitin M. Nagarkar
Director and CEO
All India Institute of Medical Sciences
Raipur, Chhattisgarh

From the Editorial Desk

As we all know, World Patient Safety Day is celebrated on 17th of September every year. This year's theme of World Patient Safety Day is, "Health Worker Safety – A Priority for Patient Safety". Under the guidance of Hon. President of AIIMS, Mangalagiri, Prof. Dr. Ravi Kumar (Member of Patient Safety, Inter-Professional Guide Committee, World Health Organization) an edition of e-magazine on World Patient Safety was planned to be published by AIIMS, Mangalagiri, Andhra Pradesh.

The entries were open to all health care professionals so that they could pen down their imagination about health worker safety in relation to patient safety in the form of scientific articles, poetry, art work, cartoons, story etc. Some of them have also written about the practices observed by them and also specific works done by them for health worker and patient safety in their institute. We believe that the theme 'Health Worker Safety– A Priority for Patient Safety', is apt for the current ongoing pandemic situation of COVID-19 and these kind of situations will help us to design best possible protocols for the same and also will help us to overcome the lacunae in our routine administrations, if any. Some of the successful models designed and implemented by the health care workers were commendable and applicable at all levels of health care systems in India. We hope that these models can be replicated and adapted as per the resources available at each institute level.

We appreciate the sincere efforts of all the healthcare workers who have spent their quality time and participated in this magazine. We thank all the faculty and staff of our institute and other institutes across the nation who have contributed to the dissemination of information and encouraged their staff to participate and made this magazine a grand success.



Patient Safety Pledge

I pledge to be a patient safety advocate by:

(S) peaking up for health workers & patient safety

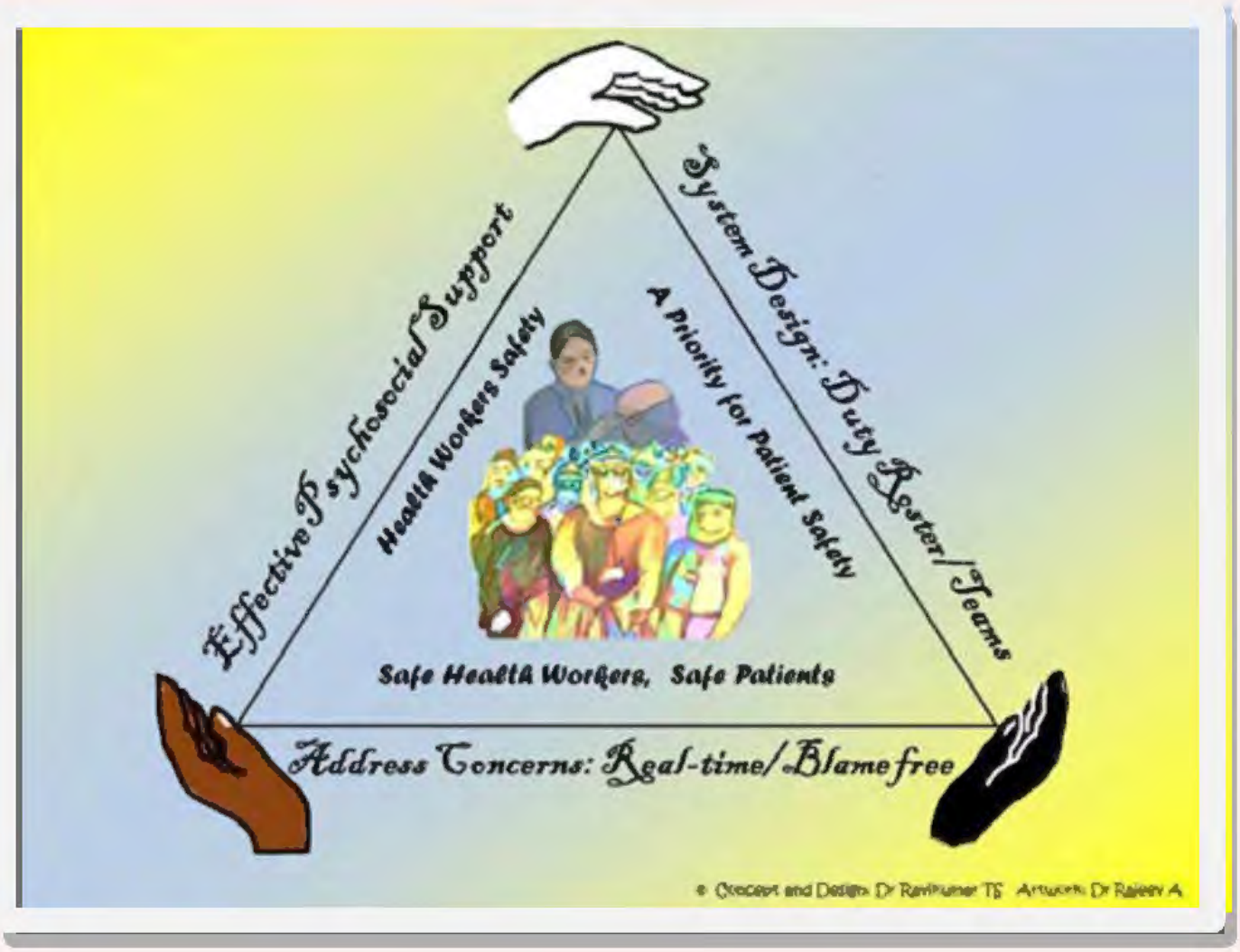
(A) cting in the best interests of patients safety

(F) ostering partnership for patient safety

(E) nsuring accountability for patient safety

(T) aking appropriate remedial measure

(Y) earning for perfection



Logo Art Portrayal:

Central role played by Health Workers towards Patient/ Public Safety...

Triangle representing three broad principles for action for health workers safety..

Hands of different colours signify global solidarity across races in ensuring welfare of health heroes ....

Backdrop represents bright future (sunshine) driving away despair ....

~ Dr Ravikumar TS

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Art work by Miss Nandini Das

Article

Compassion Fatigue

Ms. Raghavi N Malepati, Second Year MBBS, AIIMS Mangalagiri

Picture this,

You walk into the hospital ready for your shift, ready to save lives.

An unconscious five-year old girl covered in blood is brought into the ER accompanied by her frantic mother. “Please save my daughter doctor, Please save her!” You calm down the mother and extract all the relevant history to learn that it’s a case of domestic abuse by an alcoholic father. You set out immediately to save the girl. You find a stab wound in the abdomen, probably from a broken beer bottle and a laceration on the skull. After securing an IV and starting fluids, you go ahead and start checking the mental status, but then the machines suddenly start beeping. “There’s too much blood loss, the patient is in shock! Start CPR immediately!!” Your chief shouts at you. You can faintly hear the mother sobbing in the background pleading you to save her daughter. You start carrying out the chest compressions while the nurse brings over the defibrillator. You’ve been performing CPR for the past thirty minutes, but there is no ROSC. “Time of death 11:39 PM” you state quietly. Hands suddenly grab your apron, “WHY DIDN’T YOU SAVE HER?? MY ONLY DAUGHTER!!” Eyes filled with grief and anguish question you. Her daughter had just died and you could feel your eyes welling up with tears as well. You could feel yourself empathizing with the mother.

However, you swallow down your tears and try to comfort her. You have to consciously bottle down your emotions and keep going. After your shift, you see the mother again, shaking with gut wrenching sobs.

This might be the reason why healthcare professionals are more prone to compassion fatigue. Compassion fatigue is a convergence of burnout and secondary traumatic stress, a state of physical and mental exhaustion caused by a depleted ability to cope with one's everyday environment (1). Emergency specialists and therapists dealing with trauma patients are especially prone to this spectrum of symptoms (2). They’re subjected to a lot of stress daily and are expected to present themselves as a reliable person to the patient- someone they can trust their life with. The main factors causing burnout include losing a patient, stressful work life, inefficient organizational support systems, time constraints and excessive workload (3). Interestingly, even maintenance of Electronic Health Record (EHR) has been associated as a causative factor to physician burnout (4). Burnout is highly prevalent among the health professionals in India. A study done in March 2020, shows that almost one fourth of India’s health care professionals experience burnout (5). Physician burnout has detrimental effects on both the individual and the system. It is associated with increased rates of depression, medical errors, difficult relationships with coworkers, patient dissatisfaction and decreased quality of healthcare (6,7).

Thus, healthcare professionals are advised to practice “self care” to combat compassion fatigue. Self care could be anything rewarding to yourself. It could be as simple as walking your dog or having a cup of coffee with your loved ones. In dire cases it can also mean seeking professional help that you know you need. However, the stigma surrounding mental health, prevalent even in the medical fraternity prevents physicians to seek help as they’re very self sufficient with their self prescribed medication and their reluctance to seek professional help to fight their psychological battles (8,9,10). At the end of the day, compassion fatigue is not a rare complex disease only seen in medical text books. It is something many of us have

and might experience. It's not something scary, it is just a momentary interval in our medical journey that reminds us that we are human as well by bringing our emotions to the surface. Instead of just burying it within ourselves, we should face it head on and rise above it so that we can continue on our path to become the best physician we can.

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Medication Reconciliation: Ensuring Medication Safety in Transitions of Care

Dr. Sushil Sharma, Additional Professor & Head, Department of Pharmacology, AIIMS Mangalagiri

Article

Case scenarios:

An elderly woman is admitted to a hospital with a diagnosis of community-acquired pneumonia. Appropriate antibiotics and management were ordered and commenced. Four days later the patient suffered a myocardial infarction and it was found that a medication she was taking for CHD had been unintentionally omitted on admission.

A young patient's anti-epileptic medicine was temporarily discontinued during the patient's hospitalization due to a potential drug interaction. However, the drug was not renewed upon discharge and the patient later experienced recurrence of his grand mal seizures.

"Show me your Medicines" is a common instruction by medical staff when patients report to the OPD/Ward/hospital and the patient empties the medicines he/she has got in the polythene gag. But how effective is this " Poly Bag" review process? Does it reliably give a complete picture of the pills patients are taking or can it lead to errors? It is estimated that between 10% and 67% of medication histories have at least one error, and up to 33% of these errors have the potential to cause patient harm (1). Medication errors can occur in any patient but patients who moves across transitions of care are most vulnerable. Transition points of care are particularly prone to unintended changes in medication regimes and other medication discrepancies. Out of the total medication errors that occur, more than 50% of medication errors occur at transitions of care. Medication discrepancies impact almost every patient that moves across transitions of care which may even lead to increased rates of readmissions.

Many of these events occur as a result of poor communication between health care professionals (HCP), between HCP and patients or care givers when care is transferred, such as when patients are admitted to hospital, move between wards, inter-hospital transfer or when they are discharged (2).

Erroneous medication histories can lead to discontinuity of therapy, recommencement of discontinued medicines, inappropriate therapy and failure to detect a medication related problem.

Up to 27% of hospital prescribing errors are attributable to inaccurate or incomplete medication histories on admission to hospital with the omission of a regular medicine being the most common error. Discrepancies also commonly occur at discharge when prescriptions are written and discharge summaries prepared. In patients discharged from an internal medicine service, 23% of the patients experienced an adverse event and 72% of these were medication related (3).

Majority of these errors can be prevented through a formal medication reconciliation process designed to improve the accuracy of medication histories recorded and their use when prescribing.

Medication Reconciliation:

It is a system of effectively communicating changes to medication regimens to patients and healthcare providers within the patient's circle of care as he/she transitions through the healthcare system. Without an effective medication reconciliation process there are increased chances for error and harm. The process of medication reconciliation is intended to ensure accurate and consistent communication of patient's medication.

Its reach touches every patient and many health care professionals through the entire continuum of care.

Medication reconciliation is the process of creating the most accurate list possible of all medications a patient is taking including drug name, dosage, frequency, route and comparing that list against the physician's admission, transfer, and/ or discharge orders, with the goal of rectifying any discrepancies and providing correct medications to the patient at all transition points within the hospital.

Steps involved in Medication Reconciliation (4)

Step 1: Obtaining a Best Possible Medication History (BPMH):

The safe use of medications while treating patients, requires knowledge and consideration of all the medications that the patient is currently taking or receiving in order to avoid omissions, duplications, dosing errors, and potential adverse interactions with new drugs being prescribed.

BPMH is a medication history obtained by a HCP which includes a thorough history of all regular medication use (prescribed and non-prescribed), using a number of different sources of information. Types of medication to be noted on the BPMH include ALL prescribed and non- prescribed medications (self medications/herbal) and very frequently would involve talking to the patient's family and caregivers.

Step 2: Confirming the accuracy of the Medication history:

We know that patients are poor historians and the medication information should always be verified with more than one source as appropriate. These may include: a) inspection of medication containers b) patient medication lists c) previous patient health records d) pharmacists, physicians and/or home care providers.

Step 3: Medication Reconciliation at admission: Reconcile BPMH with medication orders and identify discrepancies:

Medication reconciliation at admission generally fits into two models: the proactive process or the retroactive process, or a combination of the two. The proactive model occurs when the BPMH is created prior to writing admission medication orders. In the retroactive model, admission orders are written before the BPMH is created.

In the Proactive model, the BPMH is created and documented upon patient arrival or when the decision is made to admit the patient. It is used by the prescriber to write the admission medication orders (AMO). This process depends on the BPMH being created before admission medication orders (AMOs) are written.

In the Retroactive model, a primary medication history is completed and orders written before the BPMH is created. In this case the BPMH is created and compared against the admission medication orders retroactively. Discrepancies are identified and resolved with the prescriber, if clinically appropriate. The medication should be reconciled within 24 hours.

In both models, reconciliation takes place between the BPMH and the admission orders with the aim to identify discrepancies. Discrepancies between the admission medication orders and the BPMH can be divided into two categories and re- solved:

•Undocumented intentional - discrepancies in which the prescriber has made an intentional choice to add, change or stop a medication but this choice is not clearly documented.

•Unintentional - discrepancies in which the prescriber unintentionally changed, added or omitted a medication the patient was taking prior to admission

Step 4: Medication Reconciliation at Discharge/ Transfer:

Patients with one or more medicines missing from their discharge information are 2.3 times more likely to be readmitted to hospital than those with correct information on discharge. Hence, it is important that the Best Possible Medication Discharge/Transfer Plan (BPMDTP) should be created based taking in to account the medication up updates during the treatment. This should be communicated to the patient, primary care physician, or health care team that

Will next be providing care to the patient. On receiving a BPMDTP, the various recipients should assure that their records are updated to accurately reflect patient's current medications.

Preventing harm from medications or adverse drug events, remains a top patient safety priority not only in hospitals but also across the continuum of care. Implementing medication reconciliation at all transitions in care at admission, transfer, and discharge - is an effective strategy for preventing ADEs.

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Poster by Dr. Cheranjeevi Jayam

Introduction of the Patient Safety Curriculum at AIIMS Bhubaneswar

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Patient safety in recent years has emerged as a distinct health care discipline stressing on the management of incidents and strategies for reduction of risk (1). The increased numbers of patient mortality and morbidity due to medical errors have prompted the medical community to take steps towards sensitizing medical students and doctors, on the importance of patient safety (2). Though awareness of patient safety issues has come into the limelight in the recent past, this must be consolidated by way of introducing a formal curriculum in patient safety for medical undergraduates.

AIIMS Bhubaneswar has introduced a patient safety curriculum broadly based on the WHO curriculum on patient safety, using the principles, tactics and significant thrust areas identified in it. This has a combination of case-based learning, active learning methods and interactive lectures for delivering the content. Specific out- comes expected under each broad heading, the time needed for delivery of content and training have been proportioned under each department.

The Objectives of the Patient Safety Curriculum are that at the end of the undergraduate medical course in AIIMS Bhubaneswar, the graduate should be able to:

- Appreciate the concept of patient safety and understand its importance in terms of avoidable suffering and cost
- Follow safety practices and comply with institutional, procedural guidelines when providing healthcare
- Develop a culture of reporting medical errors
- Assist in improving patient safety in all healthcare situations throughout his/her professional life.

Patient safety curriculum with the allocation of different topics to different Departments:

Semester	Hours allotted	Departments	Topics Allotted
Pre-Clinical (1st and 2nd)	18	Anatomy, Physiology, Biochemistry, Community Medicine	Basics of patient Safety, Working as a team, Communicating effectively, Workplace and workforce safety Safe & Clean environment
Para-Clinical (3rd–5th)	25	Microbiology, Pathology, Pharmacology, Forensic Medicine	Hand washing, Infection control, Transfusion safety, Communicating effectively (Transcribing errors; Laboratory practices to prevent errors), Medication safety, Injection safety, Medico-legal issues due to communication, medical errors
Clinical (6th–9th)	Incorporated in the routine classes and clinics	Ophthalmology, ENT, Orthopaedics, Paediatrics, Medicine, Surgery, Obs & Gyn, Dermatology, Respira-tory Medicine, Anaesthesiol-ogy Pulmonary Medicine, Radio-diagnosis	Workplace safety Infection control, Site-marking, OT check-list, Medication safety, Injection safety
Internship		Medicine, Paediatrics, Obs & Gyn, Surgery, Community Medicine	Medication safety, Transfusion safety, Hospital infection, Working as a team, Communicating effectively

Article

Hurdles faced in implementation:

To start with, the patient safety curriculum was implemented not in its present format. The topics were displayed, and Faculty were told to volunteer for the topics and issues on patient safety. In that format, there was a lack of ownership and responsibility. The number of faculty volunteering for the same was also less, eventually leading the chance of overburdening them. So, it was planned that the topics would be distributed amongst Departments across the length of their course. The responsibility of conducting the class was given to the respective Heads of Departments. This ensured a smooth delegation of the topics without over-burdening of a few select faculty. It also ensured that the classes on patient safety were taken across specialties which blended with the curriculum with the relevance of the topic with the subject.

Discussion and Conclusion:

Awareness of patient safety and the introduction of modules on patient safety in the medical curriculum can pave the way towards reducing never-events in hospitals. Lack of for- mal teaching may result in unsatisfactory error reporting or an unwillingness to adopt safety practices among medical students (3). In our institute, the introduction of a patient safety curriculum has been uniformly distributed throughout the semesters to ensure continued awareness among students and to reinforce the importance of patient safety.

Also, the teaching -learning methods advocated are more interactive and inclusive, to motivate students to inculcate the habits of patient safety. Surveys, case-based learning, group discussions, demonstrations, report writing, field visits are some of the teaching-learning methodologies used for this course. Students today lack an understanding of the multi- factorial mechanisms underlying medical errors. Therefore, a curriculum which includes patient safety will help to inculcate awareness and prevent/minimize medical errors.

Acknowledgement: Prof. Gitanjali Batmanabane, Director, AIIMS Bhubaneswar – who has been our guide and a constant source of inspiration. Each team member (Dr. Rituparna Maity, Dr. Vinaykumar Hallur, Dr. Mukund Sable, Dr. Pravash Tripathy, Dr. Jayanta Mitra, Dr. Sweta Singh, Dr. Suravi Patra, Dr. Amit Satapathy, Dr. Upendra Hansda, Dr. Debapriya Bandopadhyay, Dr. Somanath Padhi), of the Medical Education Unit of AIIMS, Bhubaneswar, for their unwavering support.

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COVID-19 Diagnostic Laboratory (ICMR Approved) - Department of Microbiology

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Introduction:

The COVID-19 Laboratory started functioning from 19th June 2020.

Since then the front-line COVID-19 workers of Department of Microbiology strived hard in their preparedness and participation to expand the COVID-19 diagnosis for patients of Andhra Pradesh.

While we strive to give the best possible services to the patient, the safety of our health care workers (HCW) inside the laboratory is not compromised.

Patient Safety	Health Care Worker safety
Awareness on Infection control practices	Awareness on self-protection
Appropriate sample collection and testing	Adequate knowledge transfer
Approach through telecommunication	Appropriate testing skill development
Answer to queries from patients	Ability to follow Infection control practices
Assist to approach treatment center	Accept the error and improve
Access to easy testing for patients	Accountability for their service
Addressing the grievances	Addressing the grievances

RT-PCR TESTS: Samples processed so far ……... 3650

State-of-the-art COVID - 19 Diagnostic Laboratory facility

For Patients	For Health Care Workers
Good receiving with smile and support	Good laboratory practice
Gentle handling on sample collection	Gaining facility to minimize the risk
Guidance on contact testing	Generous use of PPE in laboratory
Provide support with on time result	Guidance on risk assessment
Great quality on testing	Great training support

We are not far behind in giving trainings to our Health Care Workers too….

Health Care Workers	Multi-Dimensional Training Experience
Faculty from various departments	Quality Molecular Diagnosis
Research Scientists	Quality Techniques and Research
Laboratory Technicians	Quality RT-PCR testing in BSL 2
Data Entry Operators	Quality and quick ICMR/Andhra Pradesh portal entry
Multi Task Worker	Quality Assistance
Housekeeping	Quality Cleaning and Waste handling
Security	Quality Guarding

The road ahead……Have vision for making this one as a Regional Viral Research and Diagnostic Laboratory (VRDL).

Testing Team, Department of Microbiology:

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Dr. Rakesh Kakkar, Medical Superintendent, AIIMS, Mangalagiri

District Health Authorities, Guntur, Andhra Pradesh.

Healthcare Worker Safety, Patient Safety

Mr. Rishabh Chaurasia, MBBS 7th Semester, Dr BSAMCH, Delhi

A child dreams and studies hard to be a doctor,
A child wants to serve the world like the Creator,
During this journey to become a health care worker,
Pain of Sleepless nights evolves us to be a life saviour.

Once a doctor, always a doctor,
Shaping our mind & body to become like water,
Day by day hard work becomes part of life,
Night by night, insomnia becomes a new circadian fright.

Then a news came of harm and violence,
Saviour's life is in danger without any negligence,
Saviours are fighting battles with death,
Criminals are harming us without any rest.

Health care workers are always for help of patients,
Constantly struggling to make us healthy please have patience,

We all do mistakes as we also are humans,
Have TRUST on us as saving lives is our profession
Make strict laws & punish hard those criminals,
Take a step forward rather to cry at some funerals,
Hospitals are the place where life flies like a kite,
Keep maintaining DOCTOR- PATIENTS relation and our health again shines so bright.

Safety of Healthcare Workers: An Essential Prerequisite for the Safety of the Patients

Dr. Monica Kakkar, Professor of Biochemistry, NRIAS, Guntur, Andhra Pradesh

A. Healthcare Workers safety challenges:

Healthcare worker is one who, either directly as doctors and nurses or indirectly as helpers, laboratory technicians, hospital maintenance staff, medical waste handlers etc. is responsible for the care of sick and ailing patient. There are approximately 59 million healthcare workers worldwide. Women represent nearly 80% of the healthcare work force. Healthcare workers per- form their duty in one of the most hazardous working conditions and continue to suffer from following avoidable nonfatal occupational injuries and illnesses (1-3).

Working in Shifts and having long Working Hours: Rotation in working scheduled from days to evenings or nights and working during the weekends and holidays often makes it difficult to get adapted to different sleeping hours leading to long-term insomnia and social isolation.

Psychosocial stress due to violence, stigma, psychological and emotional disturbances. The Indi- an Medical Association has reported that 75% of doctors face verbal or physical abuse in hospital premises and fear of violence was the most common cause for stress for 43% doctors.

Physical Stress and Musculoskeletal Disorders: Nurses and helpers are more susceptible to these hazards as during the movement and transfer of patients they have to adopt non-neutral postures in- creasing the risk of having a neck, shoulder, or back MSD by 9-12 times.

Needle stick injuries: Health care workers continue to be exposed to serious and sometimes life-threatening risk of blood-borne infections. As per W.H.O survey, the disease burden caused by needle sticks injuries among healthcare workers is about 5-6 million/year. Approximately 40% cases each of hepatitis B & C, and 4.4% of HIV among healthcare workers are due to needle stick injuries. Despite all this, almost 80% of healthcare workers remain unimmunized (against Hepatitis B) in many parts of the world. Exposure to Chemicals and Toxic Substances: There are thousands of chemicals and other toxic substances to which healthcare workers are ex- posed in practice making them susceptible to asthmatic attacks.

B. Patient Safety Challenges:

The frequency and magnitude of avoidable ad- verse events experienced by patients was not well known till 1990. Recognizing that healthcare errors affect 10% of patients around the world, the World Health Organization called patient safety an endemic concern (4-6). Patient safety is the prime responsibility of every healthcare worker and medical institution. Safety of patients involves prevention, reduction, reporting, and analysis of the following medical errors that often occur during hospitalization leading to adverse effects.

Medication Errors: It involves inadvertently giving wrong drugs/dosage or a combination of drugs that either act poorly or are incompatible.

Diagnostic Errors: According to a report approximately 40-80,000 deaths occur annually in the world due to diagnostic errors.

Discharge Errors: A standardized discharge practice is absolutely essential for the rehabilitation of the patients.

Poor Hospital Facilities: Improper designing, maintenance, sanitation, hygiene or isolation can adversely affect patient safety.

Occurrence of Sepsis: Sepsis is a life-threatening condition. According to CDC, USA, occurrence of sepsis during hospitalization increased from 621,000 in 2000 to 1.1 million in 2008.

Superbugs Infection: These are the mutated version of bacteria (generated mainly in hospitals) that are resistant to most of the known antibiotics and are life threatening.

Ways to ensure Patients Safety:

According to a WHO report, approximately 444,000 individuals in the world die yearly due to avoidable hospitals related errors. Following steps have been recommended by the Agency for Healthcare Research and Quality (AHRQ) to be adopted by various Hospitals/ Medical Institutions to enhance safety of patients (7,8).

- Establishing a Safety and Health Management System
- Building a Rapid response System
- Ensure that Healthcare workers know and understand Safety Policies Developing a Safety Compliance Plan
- Establishing a Patient-Centered Care Communicate Safety Information to Patients Having a Patient-Centered Hospital Design

Safety of Healthcare Workers and Patients during the COVID-19 Pandemic:

Thumb rule which must be followed is "Care for self while caring for others". During the COVID-19 pandemic, healthcare workers are the frontline warriors, whose safety has to be ensured so that we have enough staff to care for the patients. To ensure safe workplace environment the Indian President approved an ordinance in April 2020 to protect healthcare workers, which makes violence against healthcare workers punishable with imprisonment of 3 months to 7 years and a fine up to ₹5,00,000 (9).

Experts feel that the spread of COVID-19 will soon affect staffing levels and create a crisis. The stakeholders in the healthcare system need to ensure the following:

Clinical and the non-clinical staff are properly informed and trained in the safety protocol to be followed as per the W.H.O guidelines.

All the Clinical and the Non-clinical staff have personal protective equipment as they are the only ones who just cannot always follow the golden principle of Physical Distancing.

Hospital has quicker methods to diagnose and assess the disease.

Suitable system exists for isolating suspected COVID-19 patients.

An overview of the challenges and measures to overcome them to ensure patient and health worker safety respectively demonstrates that none can be dealt while disregarding the other. This is reflected upon by the paradigm shift in the theme of Patient Safety: a global health priority with the slogan "Speak up for patient safety!", for Patient Safety day 2019 to the theme of Health Worker Safety: A Priority for Patient Safety with the slogan "Speak up for health worker safety!", for the year 2020. WHO sponsored World Patient Safety Day is celebrated on 17th September every year (8). The COVID-19 pandemic has uncovered the necessity to equip the healthcare warriors with the requisite armaments be it the workplace, its safe environment or the facilities so as to en- able them to provide patient care of highest order. This also holds the stakeholders in the healthcare system responsible for giving priority to healthcare workers' safety for safe patient care. Recognizing this MCI made the establishment of BSL-2 lab compulsory at institutes where the number of MBBS seats is between 50 and 250 which would not only ensure widespread network for testing in case present pandemic situations arises in future but also safe- guard the precious human resource providing these services (10).

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Art work by Miss Arushi Jain

Art Work

Health Worker Safety- A Priority for Patient Safety

Scope of COVID-19 Designated Operating Rooms during COVID-19 Pandemic

Dr. Naresh Kumar P, Associate Professor & I/C HoD, Department of General Surgery, AIIMS Mangalagiri

Article

BACKGROUND

Health care workers are the front liners in combating COVID19 infection and at a very high risk of exposure to the virus. Adequate knowledge about disease transmission, use of Personnel Protective Equipment (PPE) and Infection Control Protocols (ICP) are absolutely essential to prevent the spread of infection among health care workers (1). Healthcare workers in different settings of hospitals shall use PPEs appropriate to their risk profile as detailed in the guidelines issued by Ministry of Health & Family Welfare Government of India (2).

INTRODUCTION

The establishment of specialized COVID19 surgical centre (CSC) in the hospital complex exclusively dealing with COVID patients is largely essential. The CSC shall consist of a triage unit, Emergency department, separate OPD, Inpatient department (100 bed capacity), post operative ICU's [20 bed], Endoscopy suites, operating room with negative pressure and with limited radiological services viz., Ultrasound, X-ray and a CT scan unit. The CSC's will function independently like a miniature hospital with two team approach. Each team will have specialists and paramedical staff with complementing expertise to handle COVID & non COVID services (3).

After admission, based on the risk, the severity of surgical conditions, different protocols may be applied.

For confirmed & suspected patients, operating surgeon must report it to hospital pandemic management unit and operating room. These patients have a very high risk of complications that require ICU admission (4).

Risk stratification and the contingency plan is shown as per the flow of events in figure 1.

High-Risk Surgeries:

- Any procedures on the glottis, oropharynx, nasopharynx, mastoid, or sinuses
- Any procedures using cautery, laser, drill or saw within airway/oral cavity
- Any procedures utilizing operative rigid laryngoscopy or rigid bronchoscopy
- All thoracic surgery requiring lung isolation or tracheal / pulmonary resection
- Flexible Bronchoscopy, brush biopsy, transbronchial biopsy.
- Endoscopy, ECT, cardioversion

Scheduled caesarean section or other planned regional anaesthetic with high likelihood of requiring conversion to GA (mask or intubation) (5).

Low Risk Procedure:

Includes all procedures that are not covered under high risk/AGP's. Standard operating procedures (SOP) to be followed.

Standard COVID PPE:

Minimum PPE includes N95 respirator with face shield / goggles, gown and double gloves. Used mainly for High Risk Surgeries. In addition to Standard PPE , Powered Air Puri- fying Respirator (PAPR) are used during all procedures of the upper aerodigestive tract.

COVID Designated Operating Room (OR): Safety measures to ensure Health worker and patient safety

- Educate all surgical staff on PPE and COVID-19 management.

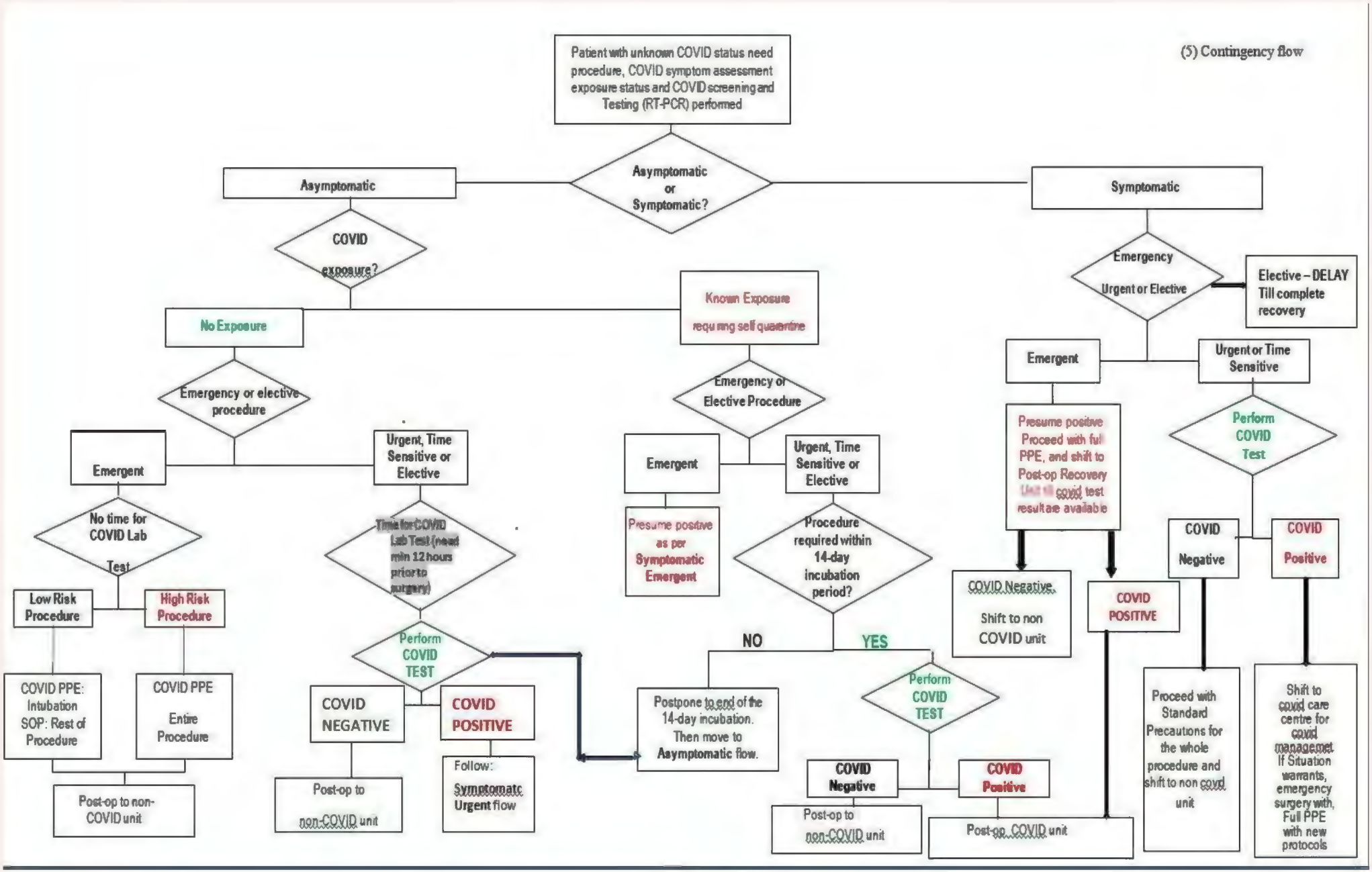
(5) Contingency flow
Patient with unknown COVID status need procedure, COVID symptom assessment exposure status and COVID screening and Testing (RT-PCR) performed
Asymptomatic or Symptomatic?
Asymptomatic
COVID exposure?
No Exposure
Known Exposure requiring self quarantine
Emergency or elective procedure
Emergency or Elective Procedure
Emergent
Urgent, Time Sensitive or Elective
No time for COVID Lab Test
Time for COVID Lab Test (need min 12 hours prior to surgery)
Low Risk Procedure
High Risk Procedure
Perform COVID TEST
COVID PPE: Intubation SOP: Rest of Procedure
COVID PPE Entire Procedure
COVID NEGATIVE
COVID POSITIVE
Post-op to non-COVID unit
Post-op to non-COVID unit
Follow: Symptomatic Urgent flow
Presume positive as per Symptomatic Emergent
Procedure required within 14-day incubation period?
NO
YES
Postpone to end of the 14-day incubation. Then move to Asymptomatic flow.
Perform COVID TEST
COVID Negative
COVID Positive
Post-op to non-COVID unit
Post-op COVID unit
Symptomatic
Emergency Urgent or Elective
Elective – DELAY Till complete recovery
Emergent
Urgent or Time Sensitive
Presume positive Proceed with full PPE, and shift to Post-op Recovery Unit till covid test resultare available
Perform COVID Test
COVID Negative
Shift to non COVID unit
COVID POSITIVE
COVID Negative
COVID Positive
Proceed with Standard Precautions for the whole procedure and shift to non covid unit
Shift to covid care centre for covid management If Situation warrants, emergency surgery with, Full PPE with new protocols

Figure 1

- The appropriate use of PPE protects patients and staff from COVID-19 transmission
- All elective surgery patients should be tested within 24-48 hours prior to surgery by a single nasopharyngeal swab RT-PCR test (6)
- A dedicated specifically trained 24/7 sanitary staff will be a valuable resource.
- Disposable material should be preferred.
- Minimal material should be used for each intervention.
- Operators (i.e., surgeon, anesthetist, nurses, technicians) should enter the OR in a timely manner to minimize exposure to infected patients.
- Negative pressure ORs would be ideal to minimize risk of infection (7)
- High OR air exchange cycles are recommended (> 25 exchanges/hr) (7)
- Clinical documentation must remain out- side the OR
- At the end of each intervention all disposable materials must be disposed off
- All surfaces and electromedical devices cleaned and disinfected with chloro-derivate solution in a concentration ≥ 0.1% or 1000 ppm (7)
- PPE must be removed and disposed of outside the OR in designated doffing areas.
- Medical staff should avoid exposure to Aerosol Generating Procedures (AGP) while using electro surgical equipment as the viral particles do survive in fumes created by electro surgical equipment (8)
- In order to reduce the risk and hazards, surgical fumes must be minimized by suctioning.
- Laparoscopic procedures may be avoided as there is high-risk of cannula leak that would in- crease the risk of exposure to operating surgeon and other OR staff (9,10)
- A filtration system where in a CO2 pressure insufflator with High Efficiency Particulate Air (HEPA) filters is included to the standard OR equipment. This allows safe evacuation of the pneumoperitoneum when Laparoscopic procedure is terminated (11)
- After each procedure, all involved personnel, should take a shower
- The OR and surrounding exchange areas must be sanitized as soon as possible after each procedure
- All linen should be handled wearing PPE during collection, and placed directly inside dedicated containers. These must be sealed and immediately sent for cleaning and sterilization
- All objects coming in contact with patient's blood, secretions and excreta should be discarded as per the biomedical waste management (BMW) and Handling Rules 2016 of MoHFW, Government of India (12).

CONCLUSION

Establishment of specialized 'COVID SURGICAL CENTRE' CSC with two team approach to perform emergency procedures and to restart elective surgeries in a staggered manner is essential in achieving high quality care of all surgical patients and ensuring safety of all health care workers.

There is a greater need for additional data and research to further identify the risk factors for transmission Pre-operatively, Intra-operative, post-operative and operative complications associated with COVID patients

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Art work by Miss Jigyasa Sahal

Art Work

Physical Examination should not become a Lost Art during the Pandemic!!

Dr. Vineet Thomas Abraham, Additional Professor, Department of Orthopedics, AIIMS Mangalagiri

Article

Physical examination is becoming a lost art during the COVID-19 pandemic because a number of physicians, understandably are trying to be safe by avoiding physical examination completely or doing the minimum to maintain social distance to protect themselves. Lot of physicians rely then, on investigations either blood or radiographic (CT/MRI) to make a diagnosis. But is that really enough? Also, telemedicine has come into play in a big way during the past few months.

Why does a health worker need to be safe? A health worker of any designation is part of the health system and any break because of illness puts load on the other members of the health system and it becomes a vicious cycle which may lead to a breakdown of health care.

For an Orthopaedician, physical examination is a very important part and absolutely essential to make a diagnosis. Just to give two examples: A patient comes with shoulder pain for past few months following a history of mild trauma. You can do the minimal without examining the patient, by asking the patient to lift the upper limb and check the active movements of the shoulder and if the patient is unable to do so, it maybe because of pain/stiffness. But unless you examine the patient properly by doing all the clinical tests and passively move the shoulder i.e. you check the movements by raising the upper limb, you cannot come to a diagnosis. Thus, you may make a false diagnosis of a frozen shoulder when the diagnosis may be something else like a rotator cuff tear or tendonitis etc.

Similarly, a patient comes with a problem in the knee with an MRI already done from another hospital which suggests an ACL tear. Unless a proper history is taken, and the patient is physically examined by the Orthopaedician by doing the instability tests, it is not possible to come to a diagnosis, whether it is a partial or a complete tear of the ACL.

The decision regarding surgery is made based on the examination findings. All investigations are only aids and cannot be solely relied on to make an accurate diagnosis.

History and examination are key even in these times of pandemic, we cannot rely only on one component or rely only on the investigative tool. This will compromise patient safety and either lead to over-diagnosis or under-diagnosis of the patient leading on to over treatment (e.g. a surgical procedure) or under treatment by treating conservatively.

Everyone has to be aware of the persistent and ever-present risk of developing infection from anyone (including their colleagues). They should not let their guard down and never forego the simple precautionary measures, like wearing a mask, visor and washing your hands before and after touching the patient or wearing gloves. Examination needs to be done thus protecting the physician and not compromising patient safety.

William James Mayo one of the founders of the Mayo clinic had said, “Sometimes I wonder whether today we take sufficient care to make a thorough physical examination before our patient starts off on the round of the laboratories, which have become so necessary that oftentimes we do not fully appreciate the value of our five senses in estimating the condition of the patient”.

Doctor safety is paramount to prevent overloading of the health system but to ensure patient safety a proper history and examination is also essential!!

So, let us taking all the necessary precautions, properly examine the patient thus ensuring a safe health worker and a safe patient!!

Art Work

Art work by Miss Airis Chakraborty

Nursing be the Thumb of Health Workers Team

Ms. Gayathri Manikandan, Nursing Student,
Sri Ramakrishna Institute of Paramedical Sciences, Tamil Nadu

Poetry

Knowledge is an achievement
But nursing knowledge is not an achievement only It is to save life
To relieve many others from pain as much we can
Recovering from a disease that is not only
a physical process
It includes mental process also

A Nurse should try the level best
There are medicines with huge names that cure the patient only from physical impairment
Health is wealth but the big wealth of health may be the Nurses.

Nursing, it is an art,

No art can be become a service
But meaning of nursing is fulfilled with this
Because nursing stands for service
Nursing is something in life
But for nursing care is everything
Without care anything can cause
But with care any cause can be erased.

Caring is for curing
Without care nursing is a not a career Still there is remaining part
Mentally curing a patient

Diverting the mind from disease
That is always nearly completely in your hands, in nurses hands
Self confidence it is a backbone

Without it nothing is possible.
A nurse must have confidence in every second, in every move
No shivering, no fear - forget it
Especially prayer and confidence- a costless medicine

That can be given to your patients

No route, No dose, No frequency

But something is behind it

a light for the sick, to regain the health.

Never take up nursing to become a professionalist

Sure nursing is a profession,

behave professionally every time.

Our field is like a war,

Every minute live consciously

Cheers to the struggle that helps to save a life

Fight with ourselves within for good motive

To save a life

To care and cure a patient

Whatever nursing care you give, be sincere in it

As healthcare team member dedicate yourself to your profession.

Poster by Mrs Komakula N K S Santhoshi

Beers Criteria and STOPP/START Criteria: A Step Forward for Medication Safety for the Elderly

Dr. Arup Kumar Misra, Assistant Professor, Department of Pharmacology, AIIMS Mangalagiri, Andhra Pradesh

Article

In the coming times, the population aged above 65 years will steadily increase because of demographic transition. Geriatrics represents the most vulnerable section of our society and tends to be the largest consumers of prescribed drugs. Treating the elderly is the most challenging part for physicians and it can be sorted only through a holistic multidisciplinary approach. It is predicted that the population of geriatrics in our country will rise from 8.3% - 10.7% by 2021 (1). It is commonly observed that geriatric people suffer from multiple co-morbid conditions and are also hospitalized several times. Hence there is an increased occurrence of polypharmacy and drug related issues which need to be addressed. Poor patient compliance is also a major problem that needs to be addressed. Drug interaction poses a major problem because it can occur as a result of drug-drug interaction, drug-food interaction and drug disease interaction.

Potentially inappropriate medication (PIM) is defined as "a drug in which the risk of an adverse event outweighs its clinical benefit, particularly when there is a safer or more effective alternate therapy for the same condition" (2). It is important to identify the potentially inappropriate medication use in this vulnerable group in order to minimize pharmacotherapy related hazards. The most widely used tools for (in) appropriate prescribing in older people with multi morbidity, several explicit screening tools have been developed are the Beers criteria and the Screening Tool of Older Persons' potentially inappropriate Prescriptions/ Screening Tool to Alert to Right Treatment (STOPP/START) criteria.

One of the most widely used medication criteria in the world is the Beers Criteria. The Potentially Inappropriate Medication use in older adults commonly called as Beers list is a guideline for health care professionals to help improvise on the safety of prescribing medications to older adults. It provides several benefits by increasing the awareness of inappropriate medication use in geriatrics and will continue to encourage health care professionals to stop and carefully consider the risks of usage of a particular drug in older adults while carefully considering the drug and non-drug alternatives. The Beers Criteria also helps health care professionals to clearly identify and categorize drugs that are prescribed in geriatrics.

1. The first groups of drugs are those that are potentially inappropriate for the use in older adults.
2. The second group includes those drugs that have to be avoided in a particular drug or disease state.
3. The third category includes the list of those drugs that have to be used with caution.

This method of classification easily allows health care professionals to easily prescribe, prioritize drug selection and choose the most appropriate drug at a given point and reduce the drug related costs, thereby minimizing drug related problems. In the 2019 update of Beers Criteria by the American Geriatric Society, they stress on medications that are potentially inappropriate in older adults, those that should typically be avoided with certain conditions, drugs to use with caution, drug-drug interactions, and drug dose adjustment based on kidney function (3).

Another important criteria used for PIMS in the European Union is the STOPP (Screening Tool of Older Persons' Prescriptions) and START (Screening Tool to Alert to Right Treatment). This criterion facilitates the medication review in multi-morbid older

people in most clinical settings. STOPP-START criteria are used as a tool for clinicians to review potentially inappropriate medications in older adults and have been endorsed as a best practice by some organizations. STOPP consists of 65 indicators for potentially inappropriate medications (PIM), which commonly cause drug-drug and disease interactions, unnecessary therapeutic duplication, and which increased risks of cognitive decline and falls in older people. START consists of 22 indicators for medications that should be considered for a list of conditions provided no contraindication to prescription exists (prescribing omission). The criteria are arranged according to the physi- ological group e.g. cardiovascular, respiratory, etc. STOPP/START explicit IP criteria are de-signed to detect common and/or important potentially inappropriate medications (PIMs– STOPP criteria) and potential prescribing omissions (PPOs–START criteria). This criterion improves medication appropriateness, reduced polypharmacy, reduced adverse drug reactions (ADRs), led to fewer falls, and lower medication costs. There are at least 114 criteria after two Delphi validation rounds by the experts, i.e. 80 STOPP criteria and 34 START criteria. The ver-sion-2 of the new STOPP created categories that include antiplatelet/anticoagulant drugs, drugs affecting, or affected by, renal function and drugs that increase anticholinergic burden and on the other hand, new categories of START include urogenital system drugs, analgesics and vaccines. STOPP/START version-2 criteria have been expanded and updated for the purpose of minimizing inappropriate prescribing in older people. These criteria are based on an up-to-date literature review and consensus validation among a European panel of experts (4). The prevalence of potentially inappropriate medication (PIM) use is high among geriatrics. This will throw some light to the relationship between polypharmacy prescription in the geriatrics age group and adverse drug interactions and events in the patient group. It will help us to choose the appropriate drug in the geriatrics age group.

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Critical Analysis of an Event and System Variables for Health Care Worker Safety

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Article

Background: The theme of this year's World Patient Safety Day is Health Worker Safety: A Priority for Patient Safety. Health Care Workers are the corner stone of health system in providing health services to the population.

India has low density of health professionals and according to a World Health Organization data-base, the workforce statistic has put the country into the "critical shortage of healthcare providers' category (1). The available health workforce is always precious and their safety should be of highest priority to provide safe care to the patients and community.

Needle stick and sharp injuries (NSSIs) are per-cutaneous injuries with needles or sharp objects contaminated with blood or other body fluids. NSSIs are a major occupational hazard among healthcare workers (2).

In America, it is estimated that 600,000 to one million NSSIs occur annually among which about 16,000 of these are infected with HIV. According to the CDC only 10% of such injuries are reported (3).

It is reported during the study period at Poland that rate of NSSIs per thousand workers per year were 16.0/1000 doctors, 20.5/1000 nurses, 16.8/1000 paramedics. Every second NSSIs was not reported during the study (4).

In a National surveillance study conducted at 67 Japanese hospitals, it was found that the mean number of NSSIs per 100 occupied beds per year was 4.8 for 25 hospitals with 399 or fewer beds, 6.7 for 24 hospitals with 400–799 beds, and 7.6 for 18 hospitals with 800 or more beds (5).

In a study between 2008–2013 at five tertiary care hospitals in India, there were more than 1.5 million inpatient days, and 666 NSSIs (0.43 NSSIs/1000 IP days) were observed (6).

In view of above, an attempt is made through this critical analysis of an event to emphasize staff safety to keep patients safe and to further stress upon prevention, control and containment strategies.

Methodology: Descriptive study of a case scenario where in housekeeping staff had an accidental needle stick injury while collection, packing or transportation of biomedical waste in the hospital.

The process of handling sharps is described to understand bottlenecks and system variables identified for taking appropriate measures to prevent such incidents.

Patient care involves diagnostic and treatment modalities either in the outpatient sample collec-tion room/injection room/immunization room where sharps are generated.

Process study of usage and disposal of injections from source of generation to disposal in clinical care setting is as under:

Step 1: Taking out syringe along with needle and disposal of wrapper into General waste bin (Black)

Step 2: Performing Sample collection/injection procedure as required to the patient

Step 3: Sharp end of the needle to be disposed into white Puncture proof container (PPC) with 1% sodium hypochlorite solution for disinfection and then disposed off.

Step 4: Disposal of syringe into the infectious waste bin. (Red)

Step 5: White PPC container with sharps to be handed over to Common waste treatment facility.

Deviations at any stage of the process shall lead to near miss, error or adverse event and harm the staff involved or bio waste handlers and

patients/community.

Ontario Safety Association For Health Worker Safety demonstrated system variables constituting environment, culture of the organization and human factors leading to system failures with adverse events (7).

Findings: The following system variables are identified by critical analysis of the above event.

Environment: Physical space for Bio waste colored bins, working safe & user friendly equipment (hub cutter), uninterrupted power supply, white puncture proof container with 1% sodium hypochlorite solution for disinfection.

Culture in the hospital: The working culture and knowledge of procedure of safe injection including procedure to discard the needles, occupational behaviors like avoiding needle re-capping. The process of changing 1% sodium hypochlorite solution as per SOP. The values and actions of staff define the attitude towards work for effective implementation.

Human factors: The initial specific knowledge, its timely and accurate practice and individual behavior at that point of time influence the outcome leading to near miss, error and adverse incidents.

Systems design: Regular awareness programs, hands on training to bring about changes in attitude, strict waste management policies which may reduce occupational health hazards including sharp injuries.

Recommendations: The Plan–Do–Check–Act (PDCA) cycle model can be implemented to evaluate the systems in place and to contain further such incidents (Figure 1).

The implementation of SOPs is to be monitored by 'check list' at respective levels by the supervisors and ensured that the correct practices are followed at all times. Documentation and reporting of near miss or adverse events is essential. With the objective of learning from errors to prevent harm keeping in view of 'health worker safety for

Figure 1

patient safety', the deviations at every step have to be monitored for preventing incidents and to protect health care workers, patients, attendees and community at large. Ultimately the entire team working in coordination influences the effectiveness of the culture in the organization.

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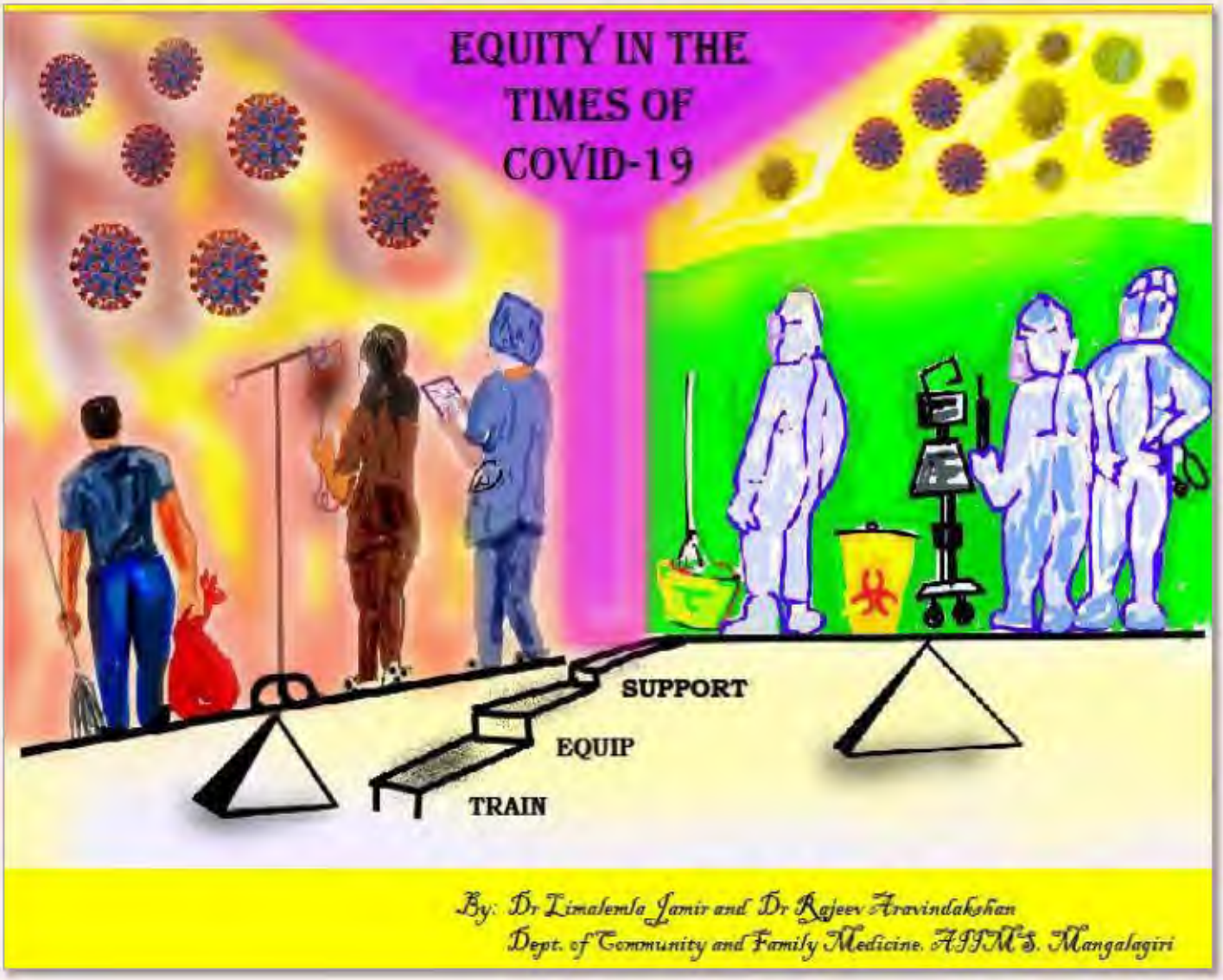

Art work by Dr Limalemla J and Dr Rajeev A

COVID-19: Man Against Mankind
Not To Be Done Activities versus Preferable Practices

Dr. Manuj Sarkar, Associate Professor, Department of General Medicine, AIIMS, Mangalagiri

INTRODUCTION: Since the beginning of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV2) from late 2019 and till date in September 2020, we have seen various unexpected behavior at any given time by the people of this world (1). The disease started initially as a cluster of cases pneumonia in Wuhan city of China, spreading initially to nearby persons in the same place, spreading from village to village, district to district, state to state, country to country and today it has infected 27,032,617 people with 881,464 confirmed deaths globally in 216 countries worldwide (2-7). Though initially it was not known that the virus is contagious and spreads from person to person through various modes, the protocols and guidelines from World Health Organization and various nationals policies kept us updating and informing about the safety measures to be followed by each and every individual in this world, but the behavior of our people in many occasions allowed the virus to keep on spreading from person to person and thereby incurring a huge lose to the mankind (2,8,9).

VARIOUS NOT TO BE DONE ACTIVITIES VERSUS PREFERABLE PRACTICES:

LOCKDOWN/ UNLOCK: Though the lockdown was implemented by each and every countries to stop the spread of COVID 19, we the citizens of the world probably did not follow the instructions by the authority. We have many examples of breaking the norms of lock- down and people having get together through out the world, thereby helping the virus to spread easily from one person to another (2,10,11). Though we are in unlock phase, but we all should remember that the virus is still there, and it will get easy target to spread from person to person and now it is more dangerous to go out. If we would have followed that lockdown/unlock norms properly and timely, may be today we could have prevented the virus to cause such a huge harm to mankind.

SOCIAL DISTANCING: Though the authority implemented various policies to maintain social distance during lockdown and enabled only emergency or essential services, we have so many examples of people gathering together, maybe for a function, entertainment, spiritual and ritual activities, games, shopping, markets etc without maintaining proper interpersonal distance, thus it became easier for the virus to spread from person to person (2,12).

MASK EQUIVALENT TO NO MASK SCENARIO: We can see many people wearing mask but not properly wearing it. You will see people having hanging mask in the neck, in one ear, covering face only with nose not covered, using transparent mask, loose mask causing full air circulation from back of mask (2,12). Thus, it does not serve the purpose of wearing a mask and it does not prevent the virus to spread. Therefore, I call this situation as MASK EQUIVALENT TO NO MASK.

PULLING DOWN MASK WHILE TALKING:
A very common practice done by the patients and maybe a lot of people is that pulling down the mask while talking. Thus, neutralizing the benefit of using a mask and maybe causing more harm for the people nearby and allowing the virus to spread from person to person. Ideally people should cover their face properly while talking, or when they are with other people but people are practicing it wrongly (2,12).

COMING NEARER TO NEXT PERSON WHILE TALKING: Another very common "Not To De Done" activity I have observed is that people coming closer to the next person

while talking. It seems that they are not able to hear the other person, therefore there is a tendency to go nearer to the next person while talking. People should raise their volume of speech while talking if his/her voice is not audible to the next person (2,12).

GATHERING/MEETING: We should try to avoid gatherings or meetings. Whenever possible virtual meetings should be preferred. Though sometimes these gatherings are important for some or other reason, still it is seen that on many occasions, social distancing was not maintained, and proper norms were not followed. Many cases of COVID 19 were diagnosed following these gatherings. So, gatherings in any form should be restricted till we are safe from the virus (2,12).

TABOO: It is a taboo amongst a lot of people, maybe because of illiteracy, that they think that COVID-19 is not a disease at all. It is a policy implemented for certain benefit. They think that protocols like quarantine of contacts, isolation of the asymptomatic cases, admitting the mild cases and keeping the positive cases admitted for the full infective period is not for the benefit of people. They are not understanding the seriousness of the disease and how dangerously it can spread to community if these protocols are not maintained. Even people are reluctant to seek help from health care facility for symptoms of COVID-19 unless seriously ill, they think that for mild symptoms like mild cough, cold, if they seek help from health care facility, they will be quarantine for 14 days. This is a very important "Not To Be Done" activity by all citizens in this pandemic, which is having very bad impact on spread.

OVERCONFIDENCE: As the disease is more severe in elderly, immune-compromised person or people with comorbidity and maximum patients getting the infection are recovering, a lot of people think that they are not having any comorbidities. But we all should remember one thing that if one person is getting the infection and if he spreads the virus to ten people, those ten then may not recover from the disease. Thus if proper protocols are not followed by a COVID- 19 positive person, they will endanger life of his/her close contacts, and elderly family members by their careless attitude. Therefore, while going out every person should think that the other people in the street or office might be having the infection, maybe an asymptomatic carrier of the virus, therefore he should maintain proper social distance, use mask properly and follow government guide- lines.

CONCLUSION: COVID-19 is a new disease of the human kind. Everyday millions of positive cases are increasing, many thousands of patients are dying. There is no approved vaccine yet and there is no specific treatment available. It is a time for all citizens of the world to take a step back and think twice before doing any activity. As the virus started from a single location of a country and till date it has reached 216 counties infecting world over, it is probable that we were not following the protocols.

Probably this pandemic would have been prevented with lesser damage to mankind, if we the people of this world had dealt with it properly (2,10-12). Therefore, I call this situation of COVID-19 as MAN AGAINST MANKIND.

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Cartoon

Cartoon by Miss Arpita Singh

Health Worker Safety- One of the Keys to Patient Safety

Ms. Yogitha Poojari, First Year MBBS, AIIMS, Mangalagiri

Just imagine a doctor in one well known hospital who has not been vaccinated and not following any personal hygiene practices such as hand washing and other practices due to either hospital insufficiency or his lack of interest, now the doctor is busy in his duty.

What will happen now?

- Either spread of infectious disease from a patient to doctor,
- Spread of infectious disease from doctor to his patients,
- Or more practically, spread of infectious disease from the old patient to doctor, and without knowing from doctor to his new patients.

What is the final result? Suffering..

Not only that single doctor or patient will suffer but many thousands of people and their families.

Isn't it?

Yes, a single precaution might change this vicious cycle.

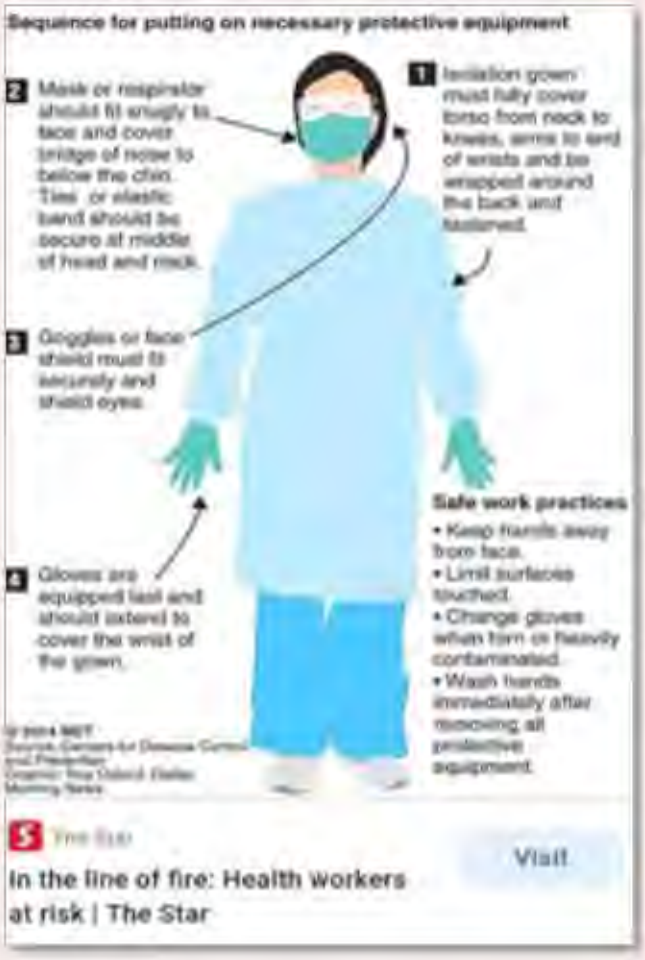
The great example now is- **COVID-19 Pandemic**.

Yes, so I want to tell that each and every precaution has to be taken by every health care worker such as immunization, personal hygiene, and Now in this COVID-19 pandemic, other important equipment like masks, gloves, gown, face shield and other personal protection equipment (PPE).

Waste collectors are so important in this health care system that they have to know how to separate, collect, store, transport the waste. Because as we know there are much higher chances of transmission of infection in them.

Proper training of workers is also very important, provision of equipment and clothing for personal protection by government or hospital management; establishment of an effective occupational health programme that includes immunization, post-exposure prophylactic treatment and medical surveillance.

Finally I say that health workers should be safe in order to save many lives and this can be achieved very effectively.



Article

The Struggle for Respect and Life

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The struggle began even before she was a medico,
Had to give up on outing and the functions that she really wanted to go.
Her family supported her, at every inch of this sail
Knowing that the sacrifices would never go for waste, even if she fails.

Her father always dreamt of her being a doctor,
He would tell her in stories about the cases that she might face later.
She studied the subjects with all of her heart,
She always wanted to conquer medicine, as if it was some mere art.

Then the day had finally arrived, When she was honoured with this degree,
That moment was of great pride.
Her father smiled as his chest expanded out of joy,
While her mother stood silent holding on to her tears.

A few months later, She joined a hospital.
All geared up to serve the people, And to do what she really loved.
She treated her patients as if they were a part of her own.
Care and empathy and medicine was all that she had known.

On some random day,
A huge crowd of goons attacked.
The hospital was under threat, As the doors and the glasses cracked.
Stones and bricks was what they threw,
The hospital was in chaos and the reason for that.. ? Nobody knew.
Few said it happened because if some negligence that was shown by the hospital,
Other said it happened due to some political agenda.

Some managed to escape, some were under arrest,

The hospital was turned in some warzone.

Many fought to survive.. while others were simply dead.

As she was laid on the OT table

She thought if it was worth of this fight for her life.

Her eyes and head were badly injured..

Seemed like she would never again see..

Even if she somehow recovered.

She withered like a flower, And her heart was broken.

That small happy family shattered.

Tears and grief was all that then mattered.

I welcome you all to this real world..

A double faced society, what else would you call.. ?

These people would place you to a position next to the God.

And won't think twice before blessing your heads with iron rods.

You give up on your life For them to survive.

And they won't even bother,

Even if they were the reason for you to cry.

In this hour of crisis You'll be still standing tall..

They would somehow find reasons to criticize you.

And try their best, to make you fall.

Enduring all the risks of contamination You'll be still fighting for their soul

While their families accuse you for all the mishandlings, on a roll.

Imagine a world without these saviours,

That too would happen someday Because of these misbehaviours.

They give their blood and sweat, moreover their entire life in this profession, to handle you with empathy and care

And under extreme supervision.

Patient Safety and Nurses

Mrs. Anu C. Vijay, Nursing Officer, Department of General Medicine, AIIMS, Mangalagiri

Article

Introduction

Health care delivery system is a complex system where multiple levels of professionals are working to deliver effective care to patients. Because of its complexity there is increased chance of mistakes in this system. According to WHO, 4 out of 19 patients are harmed in primary and out- patient health care setup all over the world (1). Also, they quote that 80% of these harms are preventable. In such a condition there arise the need for patient safety protocols and culture. This discipline not only reduces the medical errors, but also prevents the unnecessary economic cost to the country as well as the health care industry.

Definition (2)

Patient safety is the absence of preventable harm to a patient during the process of health care and reduction of risk of unnecessary harm associated with health care to an acceptable minimum [WHO].

Aim

Prevent and reduce risks, errors and harm that can happen during the provision of health care.

Goals

According to the Joint Commission International, there are mainly six goals for the patient safety and these goals help the organizations to address specific areas of concern; especially to the most problematic areas of patient safety (3).

- Identify patients correctly
- Improve effective communication
- Improve the safety of high-alert medications
- Ensure safe surgery
- Reduce risk of healthcare associated infections
- Reduce the risk of patient harm due to falls

Global Burden

In high income countries around 9% of hospital admissions are complicated by an adverse event and around 44% of these adverse events are preventable.

Around 43 million adverse events occur every year around the globe and it causes 23 million DALYs. In USA, 44000 - 98000 preventable deaths annually happen due to medical errors.

In the low and middle income countries the rate of adverse events from medical care is much higher when compared to high income countries- 134 million adverse events are reporting from LMICs each year and it results in about 2.6 million deaths each year (1).

Nurses and patient safety

Because of the constant presence at the bed side and are in regular interaction with physicians, family members and other members of health team, nurses play a crucial role in ensuring patient safety.

There are some factors that determine the nurse's role in patient safety (4):

Nurse-to-patient ratio: As the number of patients per nurse increases, there is increased risk of patient safety events like mortality or morbidity.

Patient turnover: Increased patient turnover increases the risk of adverse events. In order to solve this there should be co-ordination between the management and nursing. Provision of support staff is only a temporary solution.

Workload: Increased workload, longer shifts and working overtime are hindrances in provision of effective care.

Working environment: A non-conducive environment along with lack of supporting leaders increases the risk of committing errors while providing routine care. The working environment should be non-punitive with provision of error reporting systems.

In-service Education: The nurse's level of competence can be improved by in-service education and other training programs. They help to increase the quality of care and thereby reduce the risk of adverse events.

Conclusion:

Patient safety is the cornerstone of high quality patient care. Collaborative efforts are needed from all disciplines to ensure patient safety. Nurses can play a critical role in the coordination of effective care and in the surveillance to reduce adverse events.

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Art work by Mr Manas Saraswat

Art Work

Safety Climate: a Requisite of Health Care Workers

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Article

Health care facilities around the world have over 59 million health care workers who are unshielded from a complex variety of health and safety hazards daily. Currently, only 15% of workers worldwide have access to specialized occupational health services (1).

Health Care Workers (HCW) work in fast paced environments with high work demands. They are al- ways in need of right discernment to manage the patients. Even in such a demanding and perilous domain, the first priority of any health care worker is patient safety. To ensure maximum patient safety health care workers are expected to work flawlessly. But the most unanticipated thing here is that there is strong association between patient safety and worker safety (2).

But when a question arises on worker safety, an apt answer is yet to be provided.

A healthy workplace is often described as one in which HCWs are able to deliver higher quality care, and worker health and safety and patient health and safety are mutually supportive.

An important part of supporting patient safety must therefore focus on how to promote a healthy healthcare workplace (3).

Among all the hazards the health care workers come across there are which requires special focus.

Fatigue

According to a doctor at the University of British Columbia, fatigue of healthcare providers is emerging as an important determinant of patient safety, suggesting that work schedules may affect patient safety. Also, showing errors committed by HCWs were found to have strong correlation with sleep deprivation (4).

Mental health

The compromise in patient safety could significantly impact on psychological well being. Studies also show that perception of having made an error causing an adverse patient outcome creates substantial emotional distress. This indeed makes HCW hesitant to admit error because of the worry of blame, punishment and humiliation by their colleagues. Due to this hesitance, several errors may remain unrevealed giving rise to complications in patient safety.

Infectious diseases

Perhaps the link between HCW and patient safety is most clear in the area of infectious disease prevention. The hospital setting amplifies the spread of many pathogens and protecting HCW becomes the main defense against further spread to vulnerable patients and the community.

Vaccination of HCWs plays a vital role in preventing transmission to patients

Safety climate had also previously been correlated with better compliance with universal precautions against Blood-borne pathogens.

Needle Stick Injuries

Needle Stick Injuries (NSI), among health care workers remain a global burden. According to WHO, among 35 million HCWs worldwide 3 million are exposed to percutaneous blood borne pathogens each year; 2 million of those to Hepatitis B, 0.9 million to Hepatitis C and 170,000 to HIV. More than 90% of these infections occur in low and middle income countries (5).

Conclusion

There is narrative and qualitative evidence suggesting that attending to health and safety of

health care workers has a productive impact on patient health and safety.

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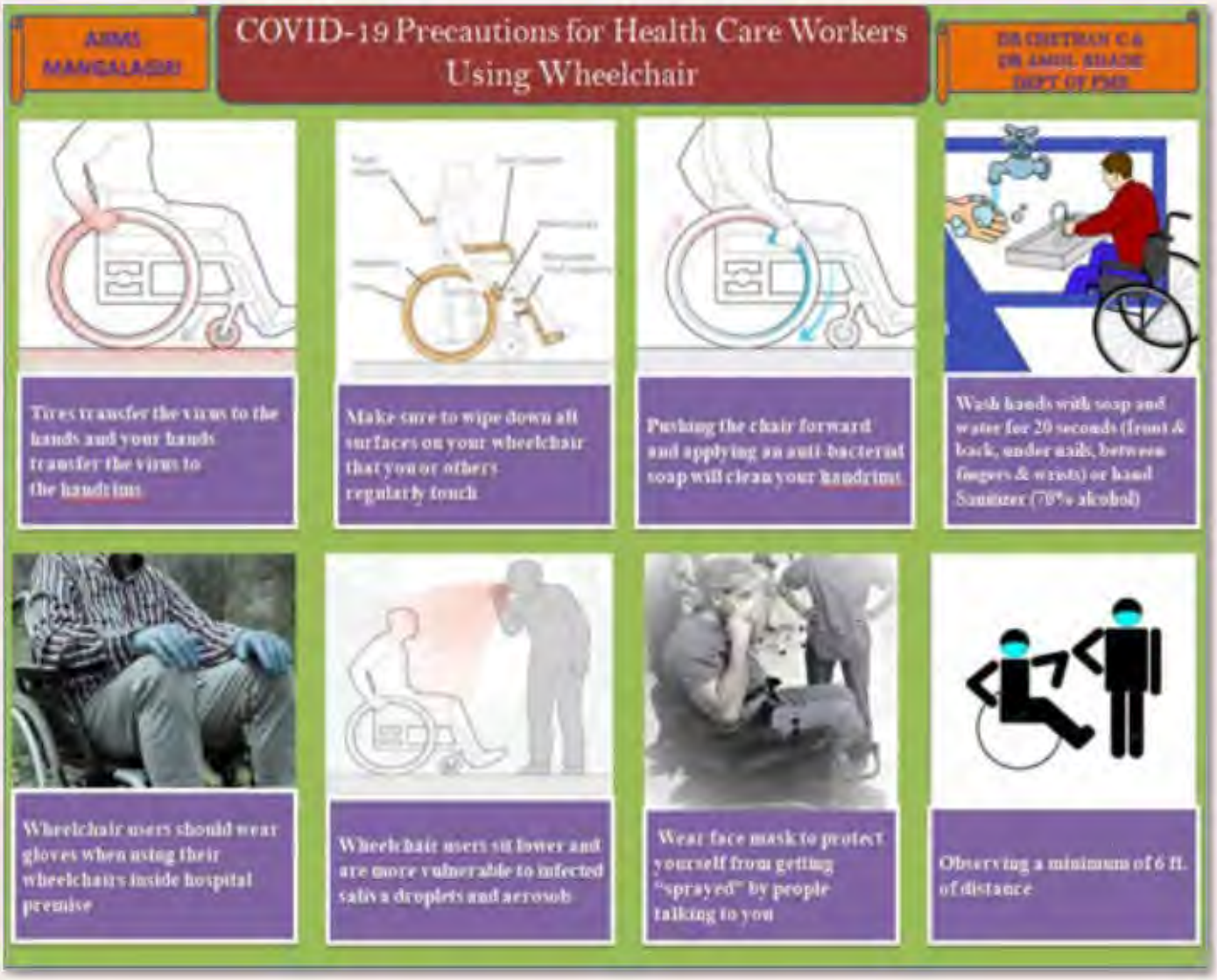


Best Practices by Dr Chethan C and Dr. Amol Khade

Academic-Practice Partnership to Protect safety of Health Care Workers and Patients

Mrs. Ponnamma K M, Professor-cum-Principal, Government College of Nursing, Medical college PO, Kozhikode , Kerala

Health care facility is a workplace and also a place to provide quality care to patients. While providing care the health care providers are exposed to a wide variety of hazards including biological, physical, chemical, ergonomic, electric, fire, explosion and psychosocial hazards. It is more relevant in the present COVID-19 Pandemic.

Health workforce has an important role in responding to disasters including natural, manmade and biological hazards and risks like SARS. In this infection the health workers are at increased risk of contracting the virus. They are putting themselves at risk of getting infected. Hence protection of the health care workers is important in continuing patient are in the health care system that is strained by SARS.

Among the building blocks of the health system health workforce is an important component. The availability of frontline health care workers including doctors, nurses and midwifes in sufficient numbers and with appropriate training are essential to preparedness. Education and training regarding infectious diseases will enhance the nurses' preparedness and response to epidemic outbreak. Realizing the importance of preparedness to COVID-19 response the Principal and faculty members of Government college of nursing Kozhikode became active team players of COVID-19 Containment team of Government medical college Kozhikode.

Measures adopted to protect Health care Providers

Self-empowerment to protect ourselves

Training sessions were organized on SARS-COV-2 with experts in the field on 31st January when the first case was reported. I have attended webinars by CDC on IPC during COVID-19 and undergone training on donning and doffing, appropriate use of PPE by OPEN WHO.

I have also attended open learning sessions on management of critically ill patient, ventilator management, oxygen therapy conducted by various international universities John Hopkins and University of Murdoch Australia and webinars conducted by Ministry of Health and Family welfare, Government of India and AIIMS New Delhi. Being an external assessor of National quality standards, I have attended the webinar organized by NHSRC for the assessment of health facilities for COVID-19 treatment centers.

Capacity building of health care workers

Training need assessment

We have conducted many discussions with nodal officer in Containment team and nursing officers and infection control nurses and nurses working in various areas. We collected topics for training for health care workers.

Preparation of information booklet

We prepared information booklets for health care providers both in Malayalam and English. It was handed over to District collector and is used for health workers and patients in quarantine. The topics include epidemiology, testing, signs and symptoms and management, dietary guidelines, infection control activities, guidelines for quarantine, handling and disposal of dead body. This is used in community first line treatment centre also (CFLTC). This booklet is handed over to nursing superintendent and is used for training of health workers in Government medical college. The information booklet is presented to District Collector Kozhikode for disseminating information.

Training on Airway management, Ventilator care and non-invasive ventilation along with faculty from emergency medicine and anaesthesia department our faculty who is a certified American Heart Association trainer

involved in training of around 300 doctors and 125 nurses using simulation in the multi professional skill lab in medical college. It was a successful team work where doctors, nurses trained in BLS and ACLS, post graduate nursing students were also involved.

Preparation of Video and Posters for Donning and Doffing

Studies revealed that training on how to use PPE is as important as the gear itself. Hence a Video is prepared on PPE donning and doffing which is used for training of all health care workers.

Posters were prepared on correct donning and doffing, displayed in both donning and doffing rooms to prevent lapses. We are really happy that none of the health workers got infected.

Webinars to empower health care workers

The Government College of Nursing Kozhikode has organized 15 international webinars with speakers and participants from across the globe (Table 1).

Tele-counselling services started with a view to reduce psychological stress when many patient suicides were reported from various COVID-19 treatment centres. Telephonic counselling is done daily by post graduate nursing students and faculty of our college for all positive and suspected patients, relatives and people in quarantine including health workers. Major physical and psychological problems are identified every day which is communicated to nodal officer and duty nurses. Problems which need immediate attention is informed immediately to the team. Daily Report is sent to nodal officer of COVID-19 containment team.

Souhruda club support services are given to students and junior nurses in quarantine with history of exposure and with positive status.

Break the chain guidelines were followed in the college with infrared testing, recording the details of all employees and visitors. Hand sanitizers were kept at the entrance and in office of the administrative staff and faculty. Hypochlorite solution is used for floor and toilet cleaning. Posters displayed in major entrance and corridors on use of mask, hand hygiene and physical distancing. Classes and meetings are conducted in online mode. University examinations are conducted following COVID-19 protocol by Department of Health and National Health Mission.

N95 Mask and Face shields were distributed to faculty and students in clinical duty and surveillance duty at airport and railway stations and in control rooms of medical college.

Quarantine testing and duty off and accommodation and transportation facilities were given to Post graduate students as per Government guidelines after duty in CFLTCs, in airports and railway stations where they is direct exposure.

To conclude, academic-practice partnership between government nursing college, Government medical college and its nursing service department was a mutual learning experience. For nursing college, it was a team work of the Principal and the faculty. It helped in the institutional preparedness and employee preparedness and their safety there by protecting the safety of our patients.

Table 1: List of Webinars conducted by Govt. College of Nursing, Kozhikode

SN	Webinar conducted	Date and Time	Participants Registered	Number of participants
1	De- Stress Let's Talk on Mental Health of Nurses in COVID-19	08 July 2020 2.30 PM to 6 PM	1098	709
2	Obstetric protocol in COVID-19 Series 1- antenatal protocol	14 July 2020 2PM to 4.30 PM	487	354
3	Intrapartum care in COVID-19	15 July 2020 11 AM to 1.30 PM	342	242
4	Online method of teaching and evaluation	16 July 2020 2PM to 4 PM	555	408
5	Post-natal care protocols on COVID-19	17 July 2020 2PM to 4.30 PM	123	85
6	Perioperative Care Protocol in Obstetrics & Gynaecological settings during COVID-19	21 July 2020 2PM to 4 PM	261	186

7	COVID-19 One Threat, One World, One Response Series 1: COVID-19 – An overview	22 July 2020 11 AM to 1 PM	439	314
8	Webinar Series– COVID-19 One Threat, One World, One Response- Series 2- COVID-19 Protocols in different set up of IMCH	23 July 2020 11 AM to 1 PM	349	291
9	Protocols in family planning ser- vices during COVID-19	24 July 2020; 2PM to 4 PM	356	234
10	COVID-19 One Threat, One World, One Response - Webinar Series 3: COVID-19 Recent advances & New challenges	27 July 2020 11 AM to 1 PM	471	350
11	Surveillance strategies of COVID- 19	27 July 2020; 2PM to 4 PM	825	536
12	Co-morbidities and COVID-19	28 July 2020 11 AM to 1 PM	533	402
13	International webinar on "protecting the health care work force" by infec- tion prevention and control in COVID-19 pandemic	28 July 2020 2PM to 4 PM	1217	830
14	COVID-19: Administrative Challenges	30 July 2020 11 AM to 1 PM	361	269
15	COVID-19 Diaries	30 July 2020; 2PM to 4 PM	312	218
	Total		**7729**	**5428**

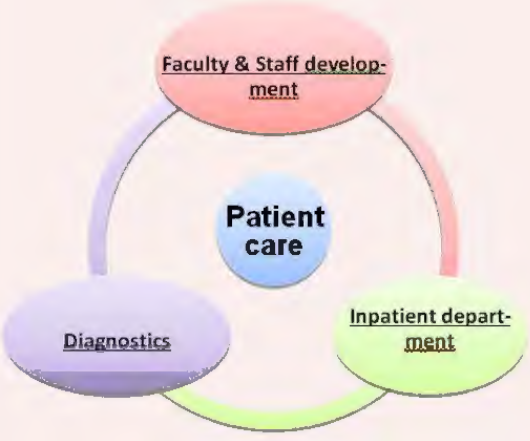
Art work by Miss Deepshi Singh

Strategies for Patient Care and Safety of Health Care Workers during COVID-19 times: Experience at AIIMS Mangalagiri

Dr. Purushotham Lingaiah, Deputy Medical Superintendent and Assistant Professor, Department of Orthopaedics, AIIMS Mangalagiri

Introduction: The impact of Corona virus infectious pandemic has been such that COVID- 19 has become a daily household usage entity (1). Ever since the first case was reported in India, the ministry of health and family welfare has released several guidelines to tackle the disease (2,3). The so called frontline COVID- 19 warriors have put in tremendous effort to fight against the disease, to an extent of putting their own health and lives at risk. The presence of a team of healthy medical doctors, nurses and support staff is of utmost importance to make themselves available to treat the affected patients. On the eve of World Patient Safety day, WHO has announced the theme as "Health Worker Safety" and the slogan as 'Safe Health Worker, Safe Patients' (4). We at AIIMS Mangalagiri worked on similar lines by developing strategies for containment, treatment and prevention of COVID-19 by safe- guarding the health care workers (HCWs) without compromising the patient care.

Strategies: AIIMS Mangalagiri adopted a patient care centered approach to deal with various aspects of COVID-19 Crisis management. This was based on three vital interlinked areas of hospitals (Fig 1).



Faculty and staff development.

COVID-19 is a novel disease. It was challenging to tackle this health issue it necessitated utilizing the services of doctors who were not specialized in the field of patient care.

Following areas of development were planned and executed:

COVID-19 task force: A team of doctors, nurses, support staff and/or administrators headed by the Director of the institute constituted sub- groups of Covid-19 task force team to work on hospital preparedness.

Manpower and Human Resource management team (Box 1)

Box 1
The roles of the team were as follows:
- Distribution of manpower
- Recruitment of manpower
- Planning for safe and effective working environment
- Setting up areas safe for consultations
- Working with the state authorities in improving health care
- Arranging protective gear for health workers

Capacity building team (Box 2)

Box 2
The roles of capacity building team
- Organizing health education sessions to faculty and staff
- Organizing mock drills
- Distributing health education materials
- Updating on changing guidelines for Covid-19 care

Procurement team

Procurement of essential equipment for COVID-19 patient care.

Quarantine ward development team (Box 3)

The strategy to quarantine the contacts/suspects was adopted to prevent community spread.

Outcome: 80 Health care workers posted in patient area were housed in the quarantine ward

thereby protecting their families from exposure. None of the families showed any signs of respiratory illness.

Isolation ward development team (Box 4)

Box 4

Functions of Isolation ward development team

- Total bed allocation: This was done based on the available expertise manpower and hence appropriate beds were arranged based on doctor to bed and nurse to bed ratio.
- Procurement of equipments
- Preparing Standard Operating Procedures
- Working on patient flow
- Establishing doctors and nurses room
- Doffing and Donning protocols
- Mock drills on patient care
- Training on developing and maintaining medical records

A separate building was earmarked for starting the isolation ward for COVID-19 patients.

Stress management team

Depression and suicides have been reported in various hospitals amongst patients and healthcare workers due to stress of COVID-19.

Infection control team (Box 5)

The safety of health workers was primarily dependent on following safe practices at work. Guidelines were adopted from ICMR and implemented. The roles were to compile and/or formulate infection control guidelines and provide training to health care workers.

A healthy mindset and a healthy, work friendly environment are very essential to keep the stress levels under check. To promote, counsel and treat the stress arising out of the current pandemic, a dedicated team of psychiatrists were deputed.

Box 5

Functional areas of Infection control committee

- Hand washing
- Face mask and Social distancing
- PPE donning and doffing
- Sanitization of OPD, IPD, Screening area, Toilets
- Biomedical waste disposal
- Protocols for accidental exposure of HCW to Covid-19 at workplace
- Rational use of PPE

Figure 2: Donning Part 1

Figure 2: Donning Part 2

Figure 4: Doffing Part 1

Figure 5: Doffing Part 4

Clinical team (Box 6)

Physicians and Anesthetists prepared the protocols for management of COVID-19.

Box 6
Primary functions of the Clinical team

- Prepare treatment protocols based on severity of the disease
- Train the non specialist doctors and nurses
- Update the management protocols
- Prepare a Rota for doctors and nurses to work in Covid ward
- Address health issues of all patients
- Availability as backup in case of emergency

Clinical team (Box 6)

Physicians and anesthetists prepared the protocols for management of COVID-19.

Faculty training programme (Box 7, 8)

Limited availability of expertise in the management of COVID-19 across the country compelled training non-specialty doctors through virtual education programme/sessions.

Box 7

- Disaster preparedness
- Management of Covid-19 case
- Covid-19 management experiences by AIIMS Raipur
- Covid-19 sample collection
- Bio medical waste management
- Covid-19 case management – nurse's perspective by CMC Vellore
- Disinfection practices of equipment and surfaces
- Preparation of isolation and quarantine ward
- Ventilator settings for nurses by AIIMS Delhi
- Medical certificate of cause of death for Covid-19
- Covid-19 dead body handling
- Grand rounds 1 and 2 on Covid-19 cases by AIIMS Delhi

*List is exhaustive. Hence only a few topics are listed

Box 8
Mock drills

- Outpatient care - Planning of OPD design conducive to consultation, PPE, Examination and Treatment
- Screening - Triaging the patients was done to prevent the Covid-19 suspicious patients from moving around in the hospital and also to subject such patients to throat swab sampling and home quarantine
- Patient flow in OPD
- Patient, Health care worker flow in IPD
- COVID-19 sampling and processing
- Isolation ward management
- BMW management
- ICU management
- Dead body disposal

Standard Operating Procedures (SOP)

SOP was made based on the guidelines issued by ICMR for the following: Screening, Quarantine of HCW contacts, COVID-19 testing, Isolation, Case management (mild, moderate, and severe) and Dead body disposal.

Duty roster

Every shift consisted of at least one physician/ anesthetist as an expert.

Diagnostics (Box 9)

VRDL was established at AIIMS Mangalagiri. Cases with Influenza like symptoms were treated with high suspicion of COVID-19 and all necessary precautions were taken to collect throat swab for RT-PCR testing for SARS CoV-2 RNA detection. Blood and radiological investigations that supported the diagnosis, monitored treatment progress or indicated prognosis were also conducted.

Box 9
Following tests were a part of management of Covid-19 patients

- For diagnosis: RT-PCR for SARS-CoV-2 RNA
- For monitoring the recovery and prognosis
  Blood Investigations – Complete Blood Count, Liver Function Test, Renal Function Test, C-reactive protein, D-Dimer, IL-6, Serum Ferritin, Blood gas analysis
  Radiological Investigations - Chest X-ray

INPATIENT DEPARTMENT
(COVID CARE CENTRE)

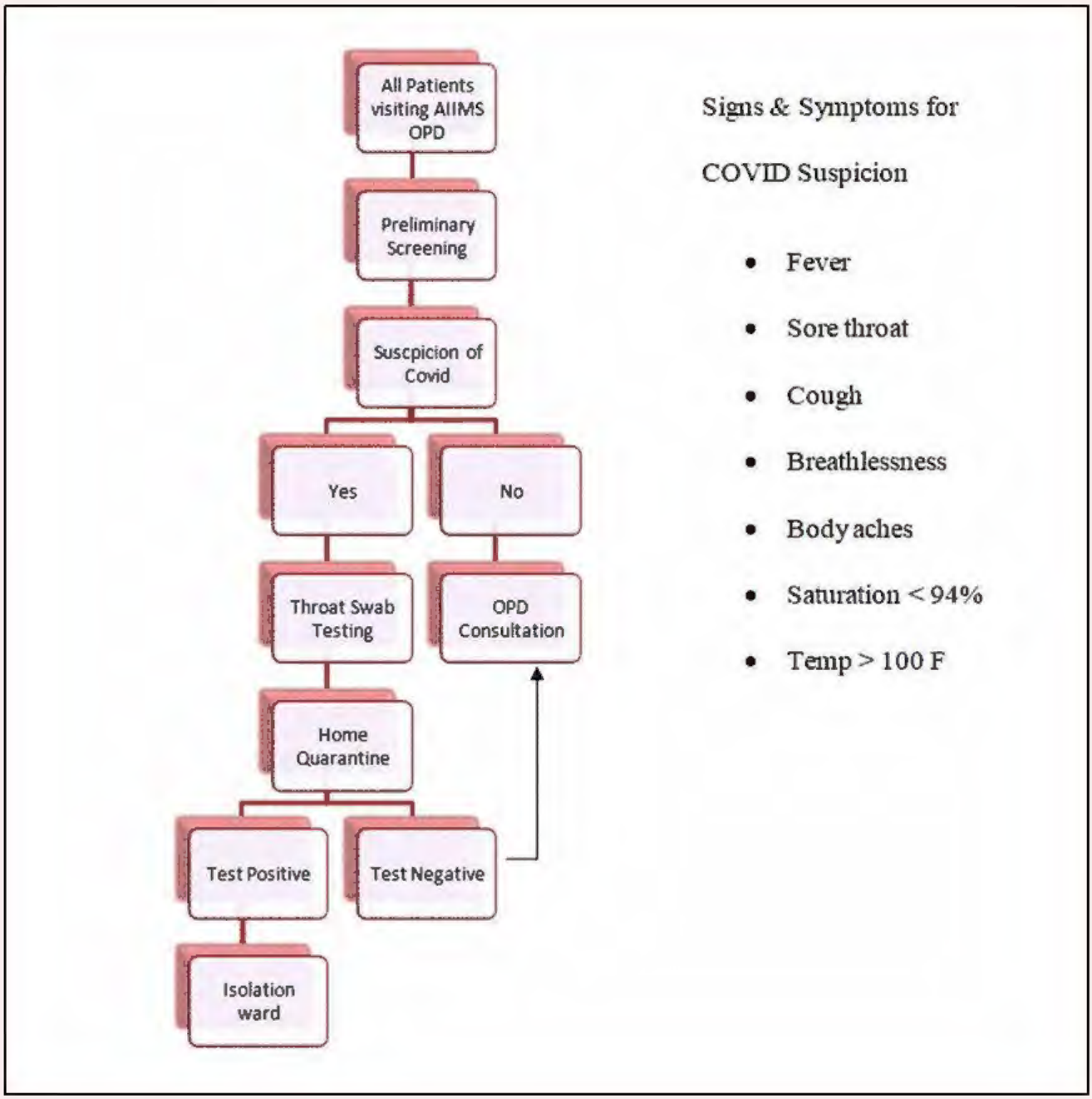
A brief of isolation ward functioning is as follows:

On receiving the patient, a thorough history and examination to categorize the patient on the basis of severity was done. Standard treatment was initiated. The policy for discharge, retesting for Corona virus and death management was adopted from ICMR.

The hospital team also worked for the care of non-COVID-19/non suspect patients by establishing the following services.

Screening Clinic: Large number of samples was being collected across the State that could result in exhaustion of resource and the rationale behind testing such large number of samples could not be justified.

The situation worsened when the clinicians were in a dilemma on clinical suspicion of COVID-19. The reason for this dilemma was two fold. Firstly, approximately 70% of cases are asymptomatic. Secondly, due to the changing weather from summer to pre-monsoon and monsoon, most patients developed upper respiratory tract infection. Hence, screening clinic was started to segregate the patients in actual need of COVID-19 test (Box 10).



Box 10: Screening Protocol

Outcome is given below:

Total Patients Screened as on 31.08.2020 : 10720					
S. No	HCW exposed	Area			HCW +ve
		Screening	Covid test	Isolation ward	
1	Doctors	40	8	34	2
2	Nurses	8	2	32	5
3	Lab Technicians	0	7	0	2
4	ANM	6	1	6	0
5	Nursing Orderly	10	3	20	2
6	Data Entry Operators	10	2	3	0
7	Housekeeping	20	10	38	5
8	Security	20	2	40	3

19 (5.9%) out of 322 HCWs tested positive after exposure to 10,720 patients. On contact tracing, it was found that 12 (3.7%) HCWs acquired infection from source other than hospital. Only seven (2.1%) HCWs contracted infection within the hospital indicating attainment of high level of personal protection and safety of HCWs.

Outpatient consultation:

The design of outpatient consultation provided safety to both patients and HCWs (Fig 6-8) (Box 10).

Box 11

- Hand sanitizer dispensers at appropriate places
- Compulsory Mask throughout the stay in hospital
- Health advisory posters pasted on walls
- Social distancing seating arrangements in waiting area
- Social distancing boxes painted for queue management in registration area and Pharmacy
- Face shields/goggles, masks, gloves and PPE coverall for HCWs
- Twice daily surface cleaning of consultation rooms
- Floor mopping with sodium hypochlorite

Figure 6: Screening clinic

Outpatient consultation

The design of outpatient consultation provided safety to both patients and HCWs (Fig 6-8) (Box 10).

Fig 7: Arrangements for social distancing at waiting area

Fig 8: Consultation room

Tele-consultation (5)

One of the biggest achievements by AIIMS Mangalagiri has been the launch of Tele-consultation services. This service helped the population at large who could not visit hospitals for routine services. The outcome was not just the satisfaction of patients, but to a large extent it prevented the spread of COVID-19 by keeping people at home. Safety instructions and COVID-19 related health education were also provided to public through Tele-consultation.

Conclusion:

Keeping in mind the sacrifice that health care workers are doing to save the world from COVID-19, it is the responsibility of all to safeguard their health. The current pandemic crisis has necessitated developing strategies and adapting to the changing guidelines released by WHO, ICMR, Health ministry and AP government. AIIMS Mangalagiri will continue to build more strategies or modify the existing ones based on the measures taken by the government from time to time to contribute further for COVID-19 care.

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Art Work

Art work by Miss Babli Kumari

World Patient Safety Day

Dr. Sumita Sharma, PG Resident, MD Community Medicine,
IMS and SUM HOSPITAL, Bhubaneswar, Odisha

Safety, safety, safety, screaming for health safety!

Use of mask, use of gloves; a few precautions variety

Hand wash sanitizer turns necessity

Corona din of battle in this pandemicity

Six feet distance from each other makes your life pretty

Step up the staircase instead of lift do physical activity

No migration without urgency fascinate your vivacity

Caring elderly as well as bambinos fix as your priority

Expanding skill of art & jolly deeds blooming your mentality

Eating healthy diet, cholesterol-free food enhance your immunity

Do daily exercise

Lose weight from ninety to sixty

Take proper medication as per advised prevent co-morbidity

Boost your energy each & every moment for healthy prosperity

Thanking a lot saluting for your life to almighty.

Art work by Miss Rella Poornima

Best Practices at the Department of Dentistry, AIIMS Mangalagiri

Department of Dentistry, AIIMS, Mangalagiri

Dentistry is a branch of medicine that consists of the study, diagnosis, prevention and treatment of diseases, disorders and conditions of the oral cavity, commonly in the dentition but also the oral mucosa and of adjacent and related structures and tissues, particularly in the maxillofacial area. Oral cavity is loaded with various kinds of micro organisms, many of which can cause infections. The nature of most dental procedures has been such that, they involve generation of aerosols which are often interspersed with these micro organisms of the oral cavity posing a threat of causing respiratory illnesses.

The current COVID-19 pandemic situation has thrown light on this important risk. Respiratory illnesses occurring secondary to inhalation of aerosols generated from procedures performed in the oral cavity pose not only a risk to the patient but also to the health care workers involved. Traditional measures to protect the health care worker and patient proved insufficient in preventing the risk of transmission of this disease and hence, Routine outpatient, elective dental and maxillofacial procedures have been suspended worldwide in view of both Health worker safety and patient safety. Following this, various organizations including CDC, American Dental Association, and British Dental Association etc., have made recommendations regarding resumption of dental services in the post lockdown period.

We, the faculty and residents at the department of Dentistry at AIIMS Mangalagiri have always been working towards creating a safe working environment for the healthcare workers involved whilst ensuring our patients are safe. In this direction, for the safe functioning of our Outpatient department in the post lock-down period, we have devised standard operating procedures, based on the best available guidance in order that we keep ourselves, our staff as well as our patients, safe. The new normal we adopted has been devised considering the layout of the department and the available infrastructure and has been approved by the Hospital administrators. It is as under:

Tele triaging:

Consultation by telemedicine is encouraged. Patients are screened for symptoms of corona virus disease. Patients are informed about suspension of elective procedures in view of the current situation. Although there aren't many dental conditions that can be treated using medication, in view of the high risk involved in performing a procedure, patients are triaged (see below) based on the urgency of the procedure required. As far as possible, the non urgent patients are managed by AAA (Advice, Analgesia, Antibiotics). Patients not responding to AAA however are requested to make a visit.

Patients visiting in person:

Although consultation and triaging by telemedicine is being encouraged, a proportion of patients continue to report for an in-person visit to the OPD. These patients either have been requested for an in-person visit for a detailed examination/cross referral from other departments/are patients who register for OPD visit unaware of telemedicine option. Such patients are managed using a simple flowchart (see below). However, in order that we keep both healthcare workers and patients safe during their visit, we adopt the following measures:

Nursing and auxiliary staff of the department have been trained in updated Infection control protocols. Dedicated workplace clothing (scrubs), footwear for clinicians and

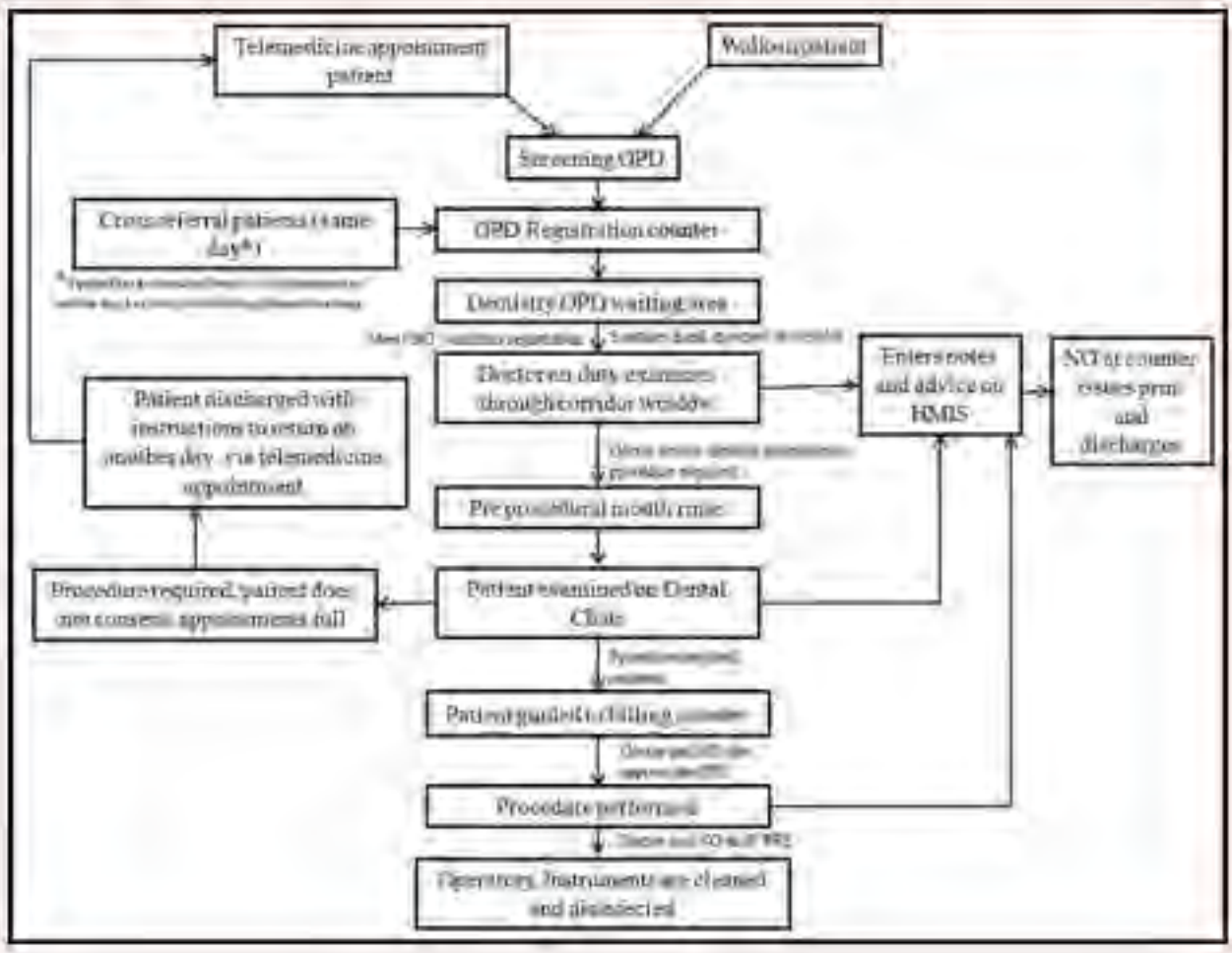
TRIAGING CATEGORIES BASED ON RISK ASSESSMENT

Clinical Condition/ Procedure	Emergency (E) or Urgent	Risk of transmis-sion
Facial Space infection	E	Very High
Uncontrolled dental bleeding	E	Very High
Uncontrolled odontogenic pain, not responding to AAA	E	High
Acute TMJ dislocation	E	High
Acute pulpitis	U	High
Dental abscess	U	Very High
Dentoalveolar injury	U	High
Pain of cavitation needing temporisation- Pulp capping/ Access opening	U	High
Unavoidable dental extractions/ Post extraction complications	U	Very High
Broken restoration causing acute sensitivity/ endangering pulp/ significant	U	High
Pericoronitis	U	High
Oral mucosal lesions requiring biopsy	U	High
Long standing cysts of Jaw	U	High
Sharp teeth/ trigeminal neuralgia/ TMPDS	U	Modeate
Oral mucosal infections such as Candidiasis	U	High
Diabetes patients requiring treatment for periodontal conditions	U	High

nursing officers, protective over coats for order lies and housekeeping staff.

- Provision of sufficient supplies of Personal Protective Equipment as required, to everyone involved in care, including clinicians, nursing officers, nursing orderly, housekeeping staff etc.,
- Ensuring sterile supplies, disinfection of all clinical areas using appropriate disinfectants on a daily basis.
- Provision of treatment procedures only if patient categorized as emergency or urgent alone (see above). No elective procedures are being performed.
- Disinfection of operatory between patients.
- Pre-procedural mouth rinse for every patient to reduce microbial load.
- Checklists pasted at strategic locations in the department to ensure everyone is reminded of agreed protocols.
- Post visit tele-follow up of patients to ensure they have had symptomatic relief and also, to be sure they have not developed any symptoms related to corona virus disease since their visit.
- A well ventilated room has been identified in order that we are prepared to handle patients requiring aerosol generating procedures, as we gradually plan to resume offering various services.
- We intend to use an aerosol suctioning machine in order that we ensure that the volume of aerosol circulating in the operatory is reduced.
- Procedures shall be planned on an appointment basis, so we can provide sufficient time between appointments to disinfect the operatory and prepare for the next appointment.
- Regular fogging of the operatory has been planned as per the protocol laid by the hospital's infection control committee.

FLOWCHART FOR PATIENT WORKFLOW AT DENTISTRY OPD



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Colour Coded Bed Sheets in Intensive Care Units – A Safety Measure to Facilitate Infection Control

Dr. Mahalingam V, Dr. Asha P Shetty, Dr. Arvind K Singh, Dr. Sachidananda Mohanty, Dr. Jawahar S K Pillai, All India Institute of Medical Sciences, Bhubaneswar

Introduction:

Bed making is a key nursing skill and is essential for the promotion of patient comfort, hygiene and wellbeing (1). Daily change of bed sheets limits the spread of infection and pre- vents bedsores and cross infection (2).

Monitoring and ensuring clean linen in each bed is a challenging job for any nursing administrator. Noncompliance of changing linen is detrimental to patient safety and comfort. To overcome this challenge, at AIIMS Bhubaneswar, we implemented day-wise colour coding of bed sheets.

As the patient occupancy was always high, there were several reasons for not changing the bed sheets. Hence irrespective of these reasons, it was decided to implement the strategy as a simple nursing measure to promote patient safety.

Aim

To facilitate the nurses to adhere to the daily bed making practice based on a colour code resulting in reduction of bedsores and increased satisfaction of nurses and patients.

Methodology

The setting selected were the Intensive Care Units (ICU). There were 07 ICUs of various specialties each with the occupancy of 07 beds.

Plan of action implemented

Step 1: Baseline assessment of existing bed sheets in each ICU was carried out.

Step 2: On a day-to day basis requirement of colour coded bed sheets were calculated and measures were taken to exchange from other units and the remaining requirement was indented. Adequate stock of each colour was ensured depending on the requirement of bed sheets in the unit.

Step 3: Educating the unit in-charges and nursing officers regarding the new strategies and plan for implementation of colour coded bed sheets on a day–to-day basis was decided (Table 1).

Table 1: Day-wise plan for colour coded bed sheets

S. No	Day	Colour of the linen
1	Monday and Thursday	White linen with Blue Lines
2	Tuesday and Friday	White linen with Yellow Lines
3	Wednesday and Saturday	White linen with Violet Lines
4	Sunday and Buffer stock	White linen with Grey Lines

Step 4: After getting consensus from all, the plan was initiated in the month of December 2019.

Results

Implementation of day wise bed sheets color coding in the ICUs gradually brought down the number of patients with bedsores from December 2019 (Figure 2).

The expressed opinion of patients and nursing officers regarding the colour coded bed sheet implementation

Patients said:

Figure 1: Implementation of color-coded bed sheets in the units

"I am satisfied with daily changing of bed sheet cloths"

"Feeling good to ask the nurses today is which color"

"Compared to other hospital, AIIMS is changing daily linens"

"Since we are always in bed so daily changing bed sheet, making us feel fresh and made to feel that someone is taking care us"

With regard to the satisfaction of Nursing Officers related to implementation of day-wise bed sheet colour coding in their respective unit their views are given below:

"It should be continued as it indicates the daily changing of patient bed sheets"

"Patient feels refreshed and also to some extent we can decrease bedsore and infection"

"The system of color coding reminds us every day changing of bed sheets"

"It should be continued because it will avoid the negligence of staff on daily bed making"

These statements indicate that patients and nursing officers have welcomed the implementation of the new strategy.

The level of satisfaction among nurses about day-wise implementation of colour coded bed sheets was indicated as 91% compared to that of 7% before implementation (Figure 3).

Discussion

Nurses need to prepare hospital beds in different ways for specific purposes to promote patient safety. Prior to implementation of colour coded bed sheets in intensive care units' stakeholders anticipated utilization of thrice the quantity of the current usage.

Based on active involvement and good cooperation from the various unit In-charges, and hospital authorities the implementation was feasible. Though, an additional 15% of the bed sheets were essential to replace the needed requirement of stock for effective implementation of the plan. Day-wise bed sheet colour coding brought many positive changes in the units and resulted in various advantages.

Discussion

Nurses need to prepare hospital beds in different ways for specific purposes to promote patient safety. Prior to implementation of colour coded bed sheets in intensive care units' stake- holders anticipated utilization of thrice the quantity of the current usage. Based on active involvement and good cooperation from the various unit In-charges, and hospital authorities the implementation was feasible. Though, an additional 15% of the bed sheets were essential to replace the needed requirement of stock for effective implementation of the plan. Day-wise bed sheet colour coding brought many positive changes in the units and resulted in various ad- vantages.

Implementation of colour coded bed sheet plan has led to adequate stocking of bed sheets in the unit as the same colour was being utilized twice in a week rather than different colour for every day. This practice has also benefited the units in adequate stocking as the used bed sheets will be sent to laundry and will be ready for use after two days. The plan has various advantages such as the implemented plan became a routine practice by adhering to the specified color codes on each day which also indicated routine change of bed sheets as a regular practice. Patient safety is ensured in terms of bed sore in the unit to-date. The following limitations also noted i.e., resistance to change and adapt to new strategy, Supply of linen in terms of desired bed sheets by the suppliers may affect the practice and the reduction in bedsore could also be due to various other reasons i.e., changing positions, hand hygiene practice, diet etc.

Conclusion:

Bed making is a way of preparing the appropriate bed as per the condition of the patient based on nursing science. Implementing cost effective strategies with existing resources results in effective quality nursing care and promotes patient safety.

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Healthy Me, Healthy You

Dr. Arul Agarwal, First year MBBS Student, AIIMS Raebareli

The night sky was aglow with bright city lights
Far from this glow, the hospital corridor is stuffy and the air has undertone of bleach nurses giving the meds, running the IVs
Patients in the beds creating memories with their medicines

Doctor holds the heart of the patient as if it were a precious gem
But do they know hospital is one of the most hazardous places to work?
Lack of equipment, constant sleepless nights
Let me do his job why my fellow doctor should be in plight

The sanctity of the patient, their humanity is what health worker strives to uphold
Despite the fear of infections, violence, accidents, illness and more
Working in stressful environment is like forever
Loss of such lives, leads to huge loss in valuable healthcare Human Resource

They produce commitment and suffer endless number of times
Can we provide safe working environment for health workers?
A patient says, "you are still the one who keeps me strong"
So investing in health worker safety, is a priority for our patient safety

'Safe health worker, safe patient' is what we cry
Let's speak up for health worker safety, give all the efforts we can try
May the workload not deter them and they get best refreshing REM and NREM sleep
May our health worker's sweet nature impart everywhere.

Fire Safety Awareness: A Foundation Step to Promote Patient Safety

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Fire has a devilish ability to bring susceptibilities of structures, systems, processes, people and that in turn causes massive damages. Hospitals are no exception from this truth. The effect of fire is very dreadful when the hospital is concerned in terms of loss of life, injuries to patients/staff, loss of property, and many more. Hence fire safety in health care facilities can be ensured by addressing structural and operational resilience, improving the knowledge and skill of employees by regular training and supervision. A fire safety training program has been arranged in the College of Nursing, AIIMS Bhubaneswar to create awareness and to develop the necessary skills to handle a fire emergency.

Introduction:

Patient safety is a global imperative as safety and security is the paramount concern for an individual next to basic needs. Many times, a patient's life is at risk due to medical errors, adverse events, hazards, accidents and 50% of them are preventable. In turn, these lead to poor health care satisfaction, prolonged hospital stay, increased medical expenditure and even disabilities or death (1). Hence patient safety has become a major global health care challenge in recent days.

Globally, every fifth fire-related death in 2017 took place in India (2,3). Fire can occur at any time and anywhere including health-care facilities (4). Moreover the severity and consequences of fire accident are more due to the presence of vulnerable people in the hospital, sick patients with life-support devices where it is difficult to evacuate them in the time of emergency, presence of combustible substances and electrical wiring with high voltage connections (5). In the last decade, many fire hazards have proclaimed in India notably AMRI Hospital Kolkata, IMS & SUM Hospital Bhubaneswar, SSG Hospital Vadodara, AIIMS Delhi, SSKM Hospital Kolkata and many more (1).

Effective safety management of a hospital depends upon compliance to law, appropriately designed buildings, maintenance of fire-fighting appliances and readiness in case of fire emergency (6,7). Therefore, it was decided to organize a fire safety mock drill to develop a basic understanding of the importance of fire safety.

Objectives:

To create awareness on fire safety and prompt use of fire-fighting equipment during fire accident

Materials and methods:

One day Fire & Safety Mock drill was organized at the College of Nursing, AIIMS Bhubaneswar in collaboration with Odisha Fire & Disaster Response Academy (OFADRA), Bhubaneswar. Total 250 participants including staff and students of College of Nursing joined.

Fire safety model:

Ensuring fire safety is a continuous process which includes meticulous planning of infrastructure, training to employees, performance evaluation, review of policies and protocol (8).

Appropriate architectural design and equipment planning has been done in AIIMS Bhubaneswar to ensure fire safety. There is sufficient open space within and among the buildings, enough exit doors, windows, staircase, well planned electrical engineering, different forms of fire extinguishers, hose reel, fire water hydrant system, automatic sprinkler system, fire alarm, automatic smoke & heat detector. The organization has a fire safety committee with written policy and protocol for fire management.

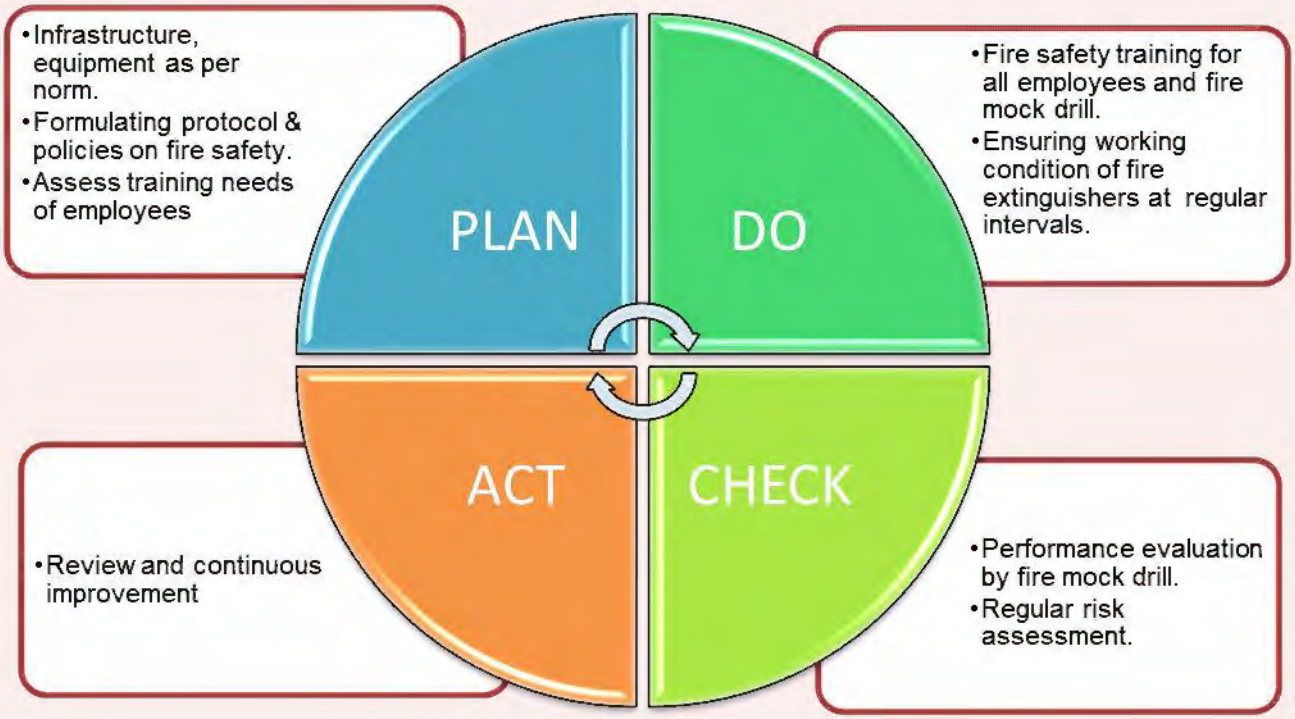


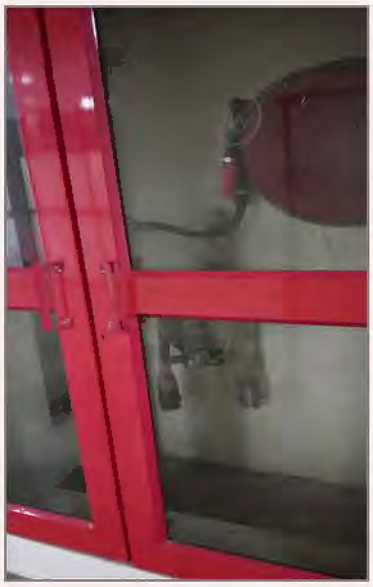
Figure 1: Fire safety model

PLAN:

Appropriate architectural design and equipment planning has been done in AIIMS Bhubaneswar to ensure fire safety. There is sufficient open space within and among the buildings, enough exit doors, windows, staircase, well planned electrical engineering, different forms of fire ex- tinguishers, hose reel, fire water hydrant system, automatic sprinkler system, fire alarm, automatic smoke & heat detector. The organization has a fire safety committee with written policy and protocol for fire management.

DO:

It is of prime importance to train all health care providers in an institution regarding fire safety and comply with protocols to promote a fire-safe environment for patients and employees. In the training programme, the fire-fighting team en- lightened about fire, the fire triangle, causes & forms of fire (Class A, Class B, Class C & Class D), types of extinguishers (water, foam, powder, CO2 & chemical), fire fighting equipment, prevention of fire accident within hospital, demonstrated uses of fire extinguisher, role and responsibility



of an individual for rescue, evacuation procedure and management of fire emergency. Use of fire extinguisher by PASS (P: Pull the pin, A: Aim the nozzle at the base of the fire, S: squeeze the handle of the fire extinguisher, S: sweep from side to side at the base of the flame) and evacuation by RACE (R: Rescue, A: Alarm, C: contain fire, E: Extinguish) was also the base of the flame) and evacuation by RACE (R: Rescue, A: Alarm, C: contain fire, E: Extinguish) was also highlighted. Security personnel and faculty from different departments participated in the demonstration session. This was followed by practice of using different types of fire extinguishers. Fire safety along with mock drill is also conducted for newly recruited Nursing Officers at the time of Induction training.

CHECK:

This is the most vital part. Once the formulated plan has been implemented, it is necessary to evaluate its effectiveness. To check efficiency and identify the problems by conducting fire mock-drill from time to time.

ACT:

Review and continuous improvement is done by institutional multi-disciplinary committee.

Limitations:

The Skill of fire management was not assessed for the same participants.

All categories of staff were not included in the training programme.

Recommendations:

The fire safety training needs to be organized for all categories of staff.

Training and supervision should be done at regular intervals to enhance the skill of fire prevention and management.

Conclusion:

Every error has a root cause and every cause has a solution but repeated error is a crime. An error cannot be prevented by one person only, it is everybody's responsibility. Training and monitoring is essential to improve skill of employees for fire risk assessment, prevention and management of fire emergency in health care facilities.

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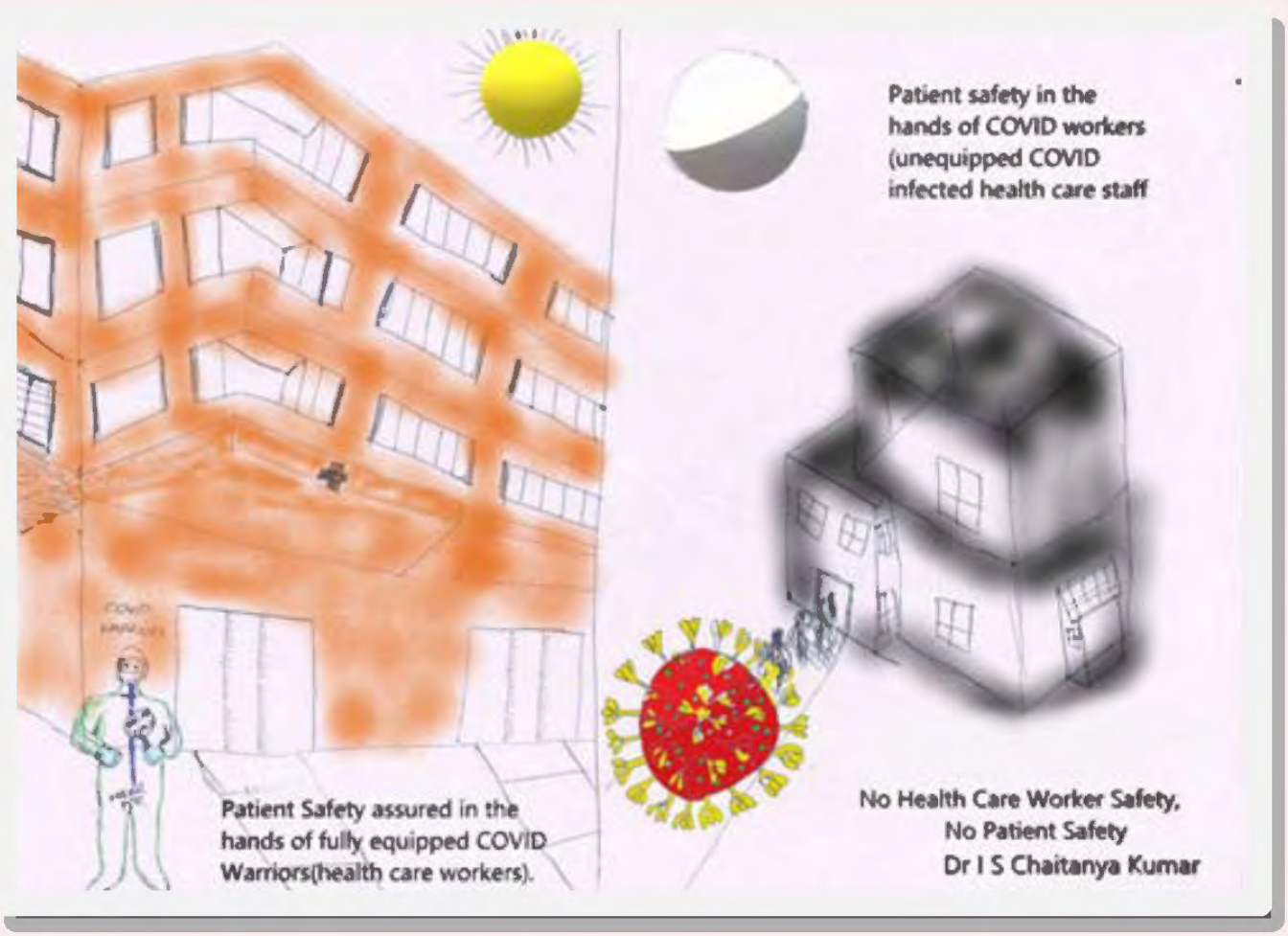


Art work by Dr I S Chaitanya Kumar

Ultraviolet C (UVC) Chamber for COVID-19 Disinfection

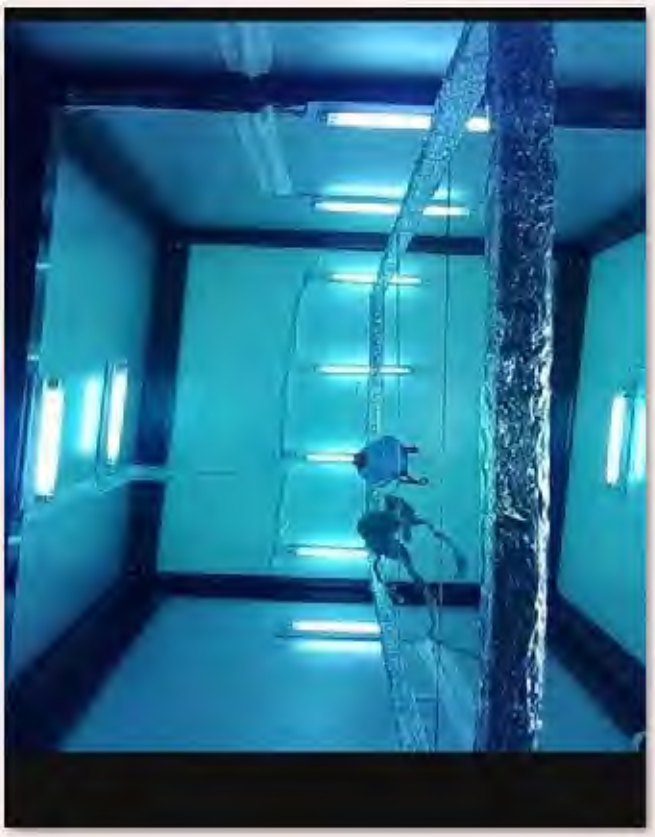
Dr. Sashi Sekhar Dubey, Intern, Dept of General Medicine, AIIMS Raipur (C.G.)

"Take risks in your life. If you win you can lead. If you lose, you can guide."

- Swami Vivekananda, Raja-Yoga

The year 2020 began with pandemic spreading across the globe, it was a cold autumn morning of February, and we had few MDR superbug cases in ward. One of the methods of disinfection and sterilization is the use of Ultraviolet C (UVC) technology. UVC use in medical science was done by dermatologist Niel Fissen for irradiation to cure cutaneous TB and was awarded Nobel Prize for the same. It was mid of March first case of COVID-19 was diagnosed at AIIMS Raipur. The samples were collected by wearing full PPE for nearly 50 people who had a history of travel. Acute shortage of N95 mask and PPE across the globe was a big challenge. We had brainstorming session on the use of UV-C irradiation for decontamination of N95 mask by designing a UVC chamber.

The first challenge was to arrange UV-C lights during the lockdown period and 18 UVC lamps which were used for water purifier were arranged. The next challenge was to choose the material needed to construct the chambers that are good UVC reflectors. The aluminum sheet, ACP (aluminum composite panel), chamber of size 6 feet tall 3 feet wide and 4 feet depth chamber was designed. The UVC tubes were lined symmetrically on all the walls. The chamber was named as LUMOS TEZ (LUMOS is a spell from Harry potter movie). The chamber was ready to carry out experiments on COVID-19 virus. The first experiment conducted was to expose the positive COVID sample to UV light in the chamber, and to calculate the reduction in delta CT value. The duration of exposure decided was 1 hour, as there were safety concerns because of very few such experiments are done. It was an unsuccessful experiment and we found that penetrability of UVC in the tubes and duration of exposure could be the reason. done with exposure duration of 1, 2 and 3 hour; and subcultures were done. Further experiments using bacterial samples, in tube and culture plates were done with exposure duration of 1, 2 and 3 hour; and sub-cultures were done. The experiments showed that penetrability for bacterial samples noticed after 2 hour in tube samples. Hence experiments on COVID samples were conducted for minimum of 2 hour, results of which were very encouraging. Subsequently, COVID contaminated N95 masks were used for experiment and mask got decontaminated from virus on exposure at UVC chamber. We are currently working on the environment de-contamination using ultraviolet to combat COVID-19 pandemic and Hospital Associated Infection. Low cost UVC chamber is a cost effective technique for decontamination during COVID-19 pandemic.



Poster

Poster by Dr. Jyoti P. Kulkarni

Resumption of Surgical Out-patient Services Post Lock-down: AIIMS, Mangalagiri Road Map

Dr. Hemant Kumar Singh, Assistant Professor, Department of Surgery, AIIMS Mangalagiri

Abstract:

COVID-19 pandemic has overwhelmed the entire medical system. Many countries have declared nationwide lockdown which has brought elective medical care to a standstill. Post lock- down resumption of outpatient clinics posed a major challenge. No clear guidelines have been published in this regard. We describe the resumption of surgical outpatient services in AIIMS, Mangalagiri, a tertiary care center. The measures were simple and easy to adopt even in a constrained setting.

Keywords: Resumption, Surgical outpatient services, COVID-19

The government of India has taken many measures to contain the COVID-19 pandemic of which imposing a nation-wide lockdown was one of them. Currently, we have completed phase 4 of the lock down (a total of 68 days) and are in the phase of unlock where activities are resuming in a phased manner. During the lock-down, all the routine out-patient department (OPD) services were stopped in most hospitals. To re-start the OPD clinics and subsequently escalate it to the pre-COVID era has been a big challenge given that corona virus can be spread even by asymptomatic patients, (1) total number of cases in the country are on a rise (1) and the continuing problem of personal protective equipment (PPE) shortage (2). There are no guidelines on how to resume the surgical OPD clinics so far by any governing bodies. We imbibed the tenets of patient care, transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), standard disinfection protocols (3-5) and surgical principles and formulated the following standard operating procedure in our hospital. We here by describe the simple measures that we have adopted in surgical OPD which may be easily replicated. (Table 1)

Capping the OPD number:

Currently, we have started the OPD clinics in a staggered manner to avoid cross infection and trans- mission of COVID-19. The OPD registration time was initially reduced to 1.5 hours/day and now escalated to fulltime and only registered patients would be seen to regulate the patient traffic and maintain the norms of social distancing. All the patients must wear a surgical mask/ home-made mask before seeking consultation.

Setting a Screening OPD for "ALL":

- A team of doctors and nursing staff (on rotation) screen "ALL" patients for signs and symptoms of COVID-19. Patients are categorized into the following
- Moderate to severe symptoms with breathing difficulty - we refer the patient to dedicated COVID block for testing and further care.
- Patients with mild symptoms of upper respiratory tract infection-are given symptomatic treatment and are given detailed instructions for home quarantine.
- Mild symptoms with department specific problem The specific specialist consultation is provided in the screening area. A provision for evaluating patient across a glass barrier is made. PPE are used only when necessary. The screening team wears full PPE for screening (thermal screening, travel history and tracing patients from the hot spots).
- Post-screening, patients are referred to the registration desk.

Cross consultations at a minimum:

Cross consultations constitute to about 5-10% of the cases in surgical OPD, the majority being benign cases and non-urgent. We made a conscious effort to communicate and have an understanding to refer only the emergent cases for opinions from other out-patient clinics. This minimizes patient traffic in the OPD arena and avoids patients waiting for long hours just to be told it is not worth treating at this time.

Avoiding unnecessary imaging:

We made a department policy for avoiding imaging for benign and non-emergent cases like venous doppler for varicose veins, ultrasound for large incisional hernias, renal calculi or with obvious clinical diagnosis. We routinely counsel women over 45 years of age for a screening mammogram. We were not pursuing this actively as the risk outweighs benefit. We discuss this with women who desire mammogram, to review after 4-6 months for imaging if they belonged to the average risk category. Shared decision making is extremely essential in this regard.

Examine only when necessary:

A significant portion of the surgical problems can be diagnosed with certainty with minimal or no examination. Consultation is also provided with social distancing; patient is seated at distance of 6 feet. We examine only when there is an acute surgical problem or there is a suspect of ominous diagnosis like malignancy. In any ambiguity we err on the side of examination than not examine at all. All malignancy suspect patients and surgical emergencies are examined in detail. We use examination couch with disposable plastic sheets or Mackintosh sheets which are disinfected with 1% sodium hypochlorite after every patient is examined.

Identify patients who need acute care:

We specially seek for those patients who have general surgical emergencies and time sensitive diseases like malignancies which can significantly affect survival. Long time to initiate treatment in cancers can impact survival (6, 7).

A paperless model:

SARS-COV-2 may spread by aerosol and fomites and can survive on plastic and steel for variable period of time (8). We use online systems for re- cording clinical history, online prescriptions to avoid directly touching the case records of the patients. For viewing patient records we use single pair of surgical gloves. The computers, surgical desk, and other accessories are disinfected at the end of the day and patient sitting couch are disinfected after each patient with 1% sodium hypo- chlorite.

Imprest money:An imprest money is a contingency fund for handling minor disbursements for the amount up to Rs.25,000 (328 USD) per department in many central government institutes. Due to lock down the supply chain of PPE, gloves and even hand sanitizer was interrupted. We judiciously used this fund to procure these items for OPD from the lo- cal vendors and averted the crisis.

PPE in OPD and disinfection:

We customized our PPE balancing the availability and risk. It consisted of gown, face shield and N95 mask. The gown was of two types – regular raincoat and a regular surgical gown. Due to lock-down the laundry services were not operating and we could not outsource this due to logistic issues. Hence, we used the raincoats with hood as 360-degree coverall. N95 mask was used along with face shield/ goggles. Gowns and face shields/ goggles are disinfected with 0.5% sodium hypo- chlorite at the end of the day.

Work in collaboration with the personnel directing the patients:

The security personnel on each floor supervises the patient crowd and streamlines them with adequate social distancing. Prior to the OPD start, we performed a drill where we demonstrated the inflow, waiting area discipline and exits for the patients. Medical staff at our hospital have a provision of separate lifts for entry and exit to reduce the contact with patients.

Telemedicine:
Telemedicine was started at our institute on 15th April, 2020 and from once a week we expanded

it to everyday in a span of 2 weeks. Consultation was given through phone, WhatsApp video call or through an AIIMS Mangalagiri e-Paramarsh' app from the Google Play Store. The patient old records were uploaded on e-Paramarsh/ WhatsApp if needed. Patient is asked to visit the nearest health care facility if necessary. The prescription is shared as image via WhatsApp/application or a text message.

Work in rotation - surgeons and support staff:

We are engaging e-learning to medical students, running OPD services and tele-consultation simultaneously for patient care. We have divided surgical team for taking care of e-learning, tele-consultations and seeing patients separately.

All three teams work independently and roles are exchanged every 2 weeks. The support staff also work in rotation. This avoids mass quarantines that may happen unexpectedly and lead to the shut-down of the department and disruption of surgical care.

Conclusion

It is three months since we have started our OPD services and we have escalated the patient care in a phased manner. We aim to provide surgical care to all patients as in the pre COVID-19 time and balance health care workers safety. This model is simple and can be embraced even in a constrained setting.

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Biomedical Waste Segregation using MediBin Mobile Application

Dr. M. Aarthy, Final Year Postgraduate, SRM Medical College Hospital and Research Centre, Kattankulathur, Kanchipuram,Tamil Nadu

Inspiration for my work- What made me develop this?

Being a medical professional, we are to handle infectious materials. In the student phase we always have doubts in disposing used gloves, apron, mask etc. While some are ignorant and others don't recognise the importance of proper waste segregation.

Healthcare waste is increasing day by day and imposing threat to the environment if not disposed properly. So, it is the duty of every healthcare worker to recognise the importance of proper segregation of biomedical waste for ensuring occupational safety and better environment.

Problem statement

The waste produced in the course of healthcare activities carries a higher potential for infection and injury than any other type of waste. Of the total amount of waste generated by healthcare activities, about 85% is general, non-hazardous waste and remaining 15% is hazardous material that may be infectious, toxic or radioactive (1,2). When biomedical waste is mixed with non- hazardous waste then the whole waste has to be treated as hazardous (3). Hazardous healthcare waste could be reduced by 2-5% if it is separated from general waste.

A study titled, "Unearthing the growth curve and necessities of Bio Medical waste management in India" released in 2018, quoted that the medical waste is likely to increase from 550.9 tonnes per day to 775.5 tonnes per day by 2022 (4). All India institute of Medical Sciences produces 24000 kgs of yellow waste, 23,500 kgs of plastic and rubber waste, 500 kgs of sharps and 26,200 kgs of glass waste with a total of 74,500 kgs a month or nearly 2500 kgs of Bio-medical waste a day [2018 statistics]. Waste management market in India is expected to reach USD 13.62 billion by 2025 (3).

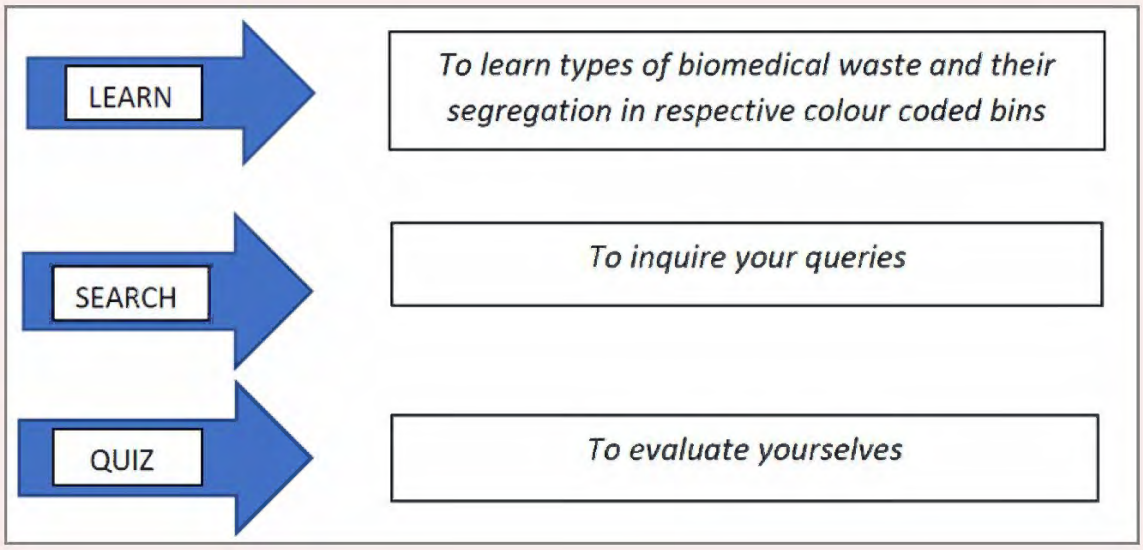
Solution

They are several steps in the management of bio-medical waste from generation, segregation, collection, storage to treatment, transport and disposal (5,6). Key step in reducing the hazard from biomedical waste is to segregate the waste at source. Hence mandatory training needs to be provided to all those who come in contact with biomedical waste like doctors, nurses, paramedics/ technicians/ allied health workers, biomedical waste handlers, and also the management personnel of the health care facility. It should include induction training and periodical training atleast once a year.

Our design to solve the problem

Adequate knowledge amongst the health care workers about the biomedical waste management rules and regulations, and their understanding of segregation, will help in the competent disposal of the waste.

MediBin mobile app was designed to aid capacity building in healthcare workers and also to benefit medical and paramedical students to learn bio-medical waste segregation in an intuitive way.



This app mainly focuses on the principle that majority of biomedical management is done if the waste is properly segregated at the point of generation itself.

This MediBin app is designed to give the adult learners a self-directed goal-oriented approach.

The images of each waste are used for better understanding and so as to benefit all cadres of health care facility from professional to waste handlers.

It is a mobile based app and is available anytime as per learner convenience.

Future work

This is a preliminary application which is yet to be developed further.

We have plans of adding donning and doffing technique of personal protective equipment and hand washing techniques in the same interactive way to make it a complete information package on infection control practices to be followed in the healthcare facility.

We will also include the transport and disposal method of biomedical waste to make it a complete training resource to use in the health care facilities and to inculcate the knowledge of biomedical waste management in students.

We are planning to conduct cross sectional studies using the MediBin mobile application to test the knowledge on biomedical waste management in medical and paramedical students pre- and post-usage.

Art work by
Miss Tanisha Sharma

Art Work

Challenges and Solutions in Handling COVID-19 Biomedical Waste: The AIIMS Bhubaneswar Experience

Dr. Prabhas Ranjan Tripathy, Additional Professor, Anatomy, Additional Medical Superintendent, In-Charge Biomedical Waste, AIIMS, Bhubaneswar

Challenges

- Following the new guidelines updated from time to time
- Motivating Waste handlers to work in COVID areas
- Ensuring Personal safety of Waste Handlers

Responding to day-to-day issues quickly

Conforming to Rules and Regulations

Information must be given to local Authority (State Pollution Control board) and respective CBWTF (Common Biomedical Waste Treatment Facility) located in the area about the opening of various services for COVID care i.e. Wards, ICUs, Screening OPD, Sample collection center and Laboratories inside the Institute followed by their inspection

Implementation of guidelines released and revised 4 times in last 6 months by Central Pollution Control Board

Updating our local standard operating procedures to address the issues and providing training across the health care worker categories for implementation

Motivating the Waste Handlers:

- Explaining them about the Insurance Scheme for Health workers fighting COVID-19 (*Pradhan Mantri Garib Kalyan* Package)
- Providing cash incentives by Institute
- Recognition of waste handlers by institute authority on special days.

Social issues of waste handlers:

Waste handlers are not permitted to enter their homes if they continue to work in the hospitals- social stigma faced by them.

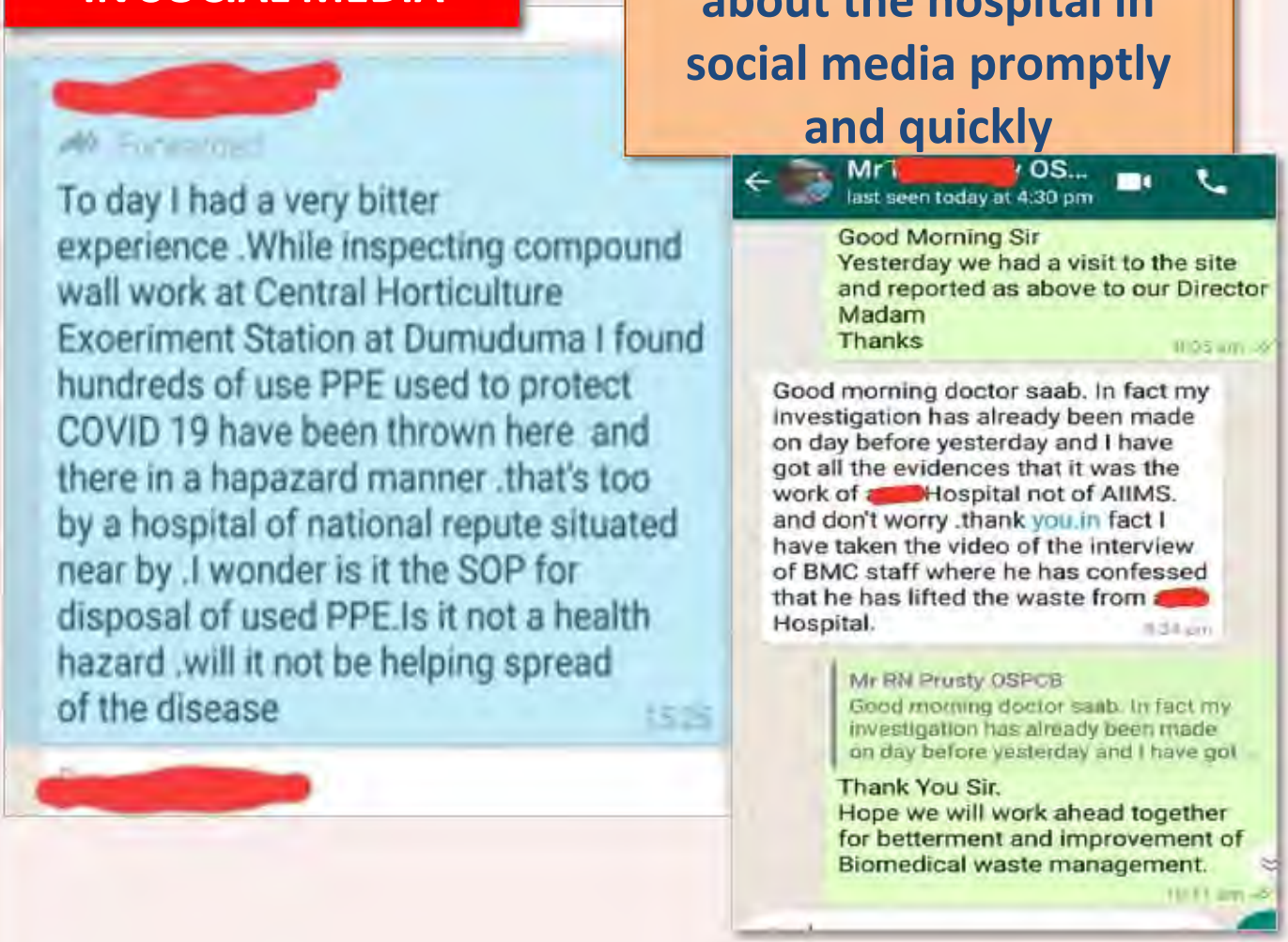
How we dealt with this issue:

- Discussion with local authority i.e. *Sarpanch* of nearby village, if required with local police
- Recognizing their work in social media
- Providing accommodation in campus if required
- Letting them know we care
- Regular training and updating about the guidelines for handling of COVID Waste
- Providing PPE
- Educating them about hand hygiene, mask use and cough etiquette at work place, home and community

- Regular health checkup
- Motivational programmes are conducted and taking care of their mental as well as physical health
- Daily weight of waste generated and its up-loading in CPCB Website
- Daily cleaning of Vehicle and Bin with 1% Sodium hypochlorite solution
- Daily inspection at all sites of waste generation i.e. Wards, ICUs, Screening OPD, Sample collection center and Laboratories
- Daily Duty posting with issue of PPE and other items
- Training Records
- Details of contact tracing if any body is suspected

RUMOR IN SOCIAL MEDIA

Addressing false news about the hospital in social media promptly and quickly



Conclusion

We have been able to motivate more workers to handle hospital wastes in COVID times. We have complied with all statutory requirement regarding handling of COVID. No waste handler is symptomatic and tested positive since last 6 months.

Could prevent bad publicity for the hospital by taking prompt action against false news in social media.

AIIMS Bhubaneswar has a motivated group of biomedical waste handlers and we are proud of their services.

Acknowledgement: The COVID-19 Working Group of AIIMS Bhubaneswar

Training on PPE Adherence among Health Care Workers- A Patient Safety Initiative

Dr. Asha P Shetty[1], Mrs. Nadiya Krishnan[2], Mrs. Hepsi Bai J[2], Dr. Smitha MV[3], Mr. Sam Jose[4]
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Abstract

A cross sectional observational study was conducted among 978 health care workers in COVID-19 wards and ICUs of AIIMS, Bhubaneswar to assess the adequacy on use of Personal Protective Equipment's (PPE). Data were collected using observation checklist on donning and doffing steps based on CDC guidelines in the designated area for donning and doffing procedure in each COVID-19 wards and ICUs. It was found that adequacy of PPE practice varied across health care workers and conclude that training with surveillance has be continued to ensure patient safety and health worker safety in terms of infection prevention.

Introduction & Background

The term "Patient Safety" denotes the absence of preventable harm to a patient during the process of health care and reduction of risk of unnecessary harm associated with health care to an acceptable minimum. An acceptable minimum refers to the collective notions of given current knowledge, resources available and the context in which care was delivered weighed against the risk of non-treatment or other treatment (1). Infection prevention control (IPC) is a critical and integral part of clinical management of patients with COVID-19 and should be initiated at the point of entry of the patient to hospital (typically the Emergency Department). Standard precautions should always be routinely applied in all areas of health care facilities. Use of PPE helps to avoid direct contact with patients' blood, body fluids, secretions (including respiratory secretions) and non-intact skin. Healthcare workers rely on PPE to protect themselves and their patients from being infected and infecting others (2). This article talks about how AIIMS Bhubaneswar prepared health care professionals to enhance patient safety and battle against COVID-19 pandemic situation through various patient safety quality improvement interventions.

From the early stage of the pandemic to till date various strategies were made to train health care professionals including nurses, doctors and other health care team members to combat with COVID-19. One such strategy was PPE training and surveillance.

Objective

To train health care workers on PPE and to observe their adherence to appropriate PPE practices

Methodology

A cross sectional observational study was conducted using convenient sampling technique among 978 health care personnel including doctors, nurses, technicians and housekeeping staff in COVID-19 wards and COVID-19 ICUs from May 2020 to August 2020. Data were collected using observation checklist on donning and doffing based on CDC guidelines. Health care professionals in the beginning of their shift duty the donning procedure was observed and during shift completion or after procedure completion doffing was observed. Both were observed in the stipulated area in each ward and ICUs. Before initiation of the study all the health care professionals were trained on PPE donning and doffing methods using video demonstration and return demonstration.

Results

Out of 478 health care professionals observed for donning procedure, more than half of them (59%) were Nursing Officers, followed by 20% house keeping and 16% were Senior Residents, 3% ward attenders, 1% Faculty and junior Residents respectively (Figure 1).

a. Preparation of video demonstration

b. PPE training session

Out of 478 observations made all faculty 4 (100%), 91 Nursing officers (NO), (30.4%) per- formed all the steps of doffing correctly. Followed by technicians, Ward attenders, house- keeping staff, Junior Residents, Senior Residents had performed all steps 53.3%, 43%, 41.2%,39.9%, 34.7% respectively (Figure 2). Out of 500 health care professionals observed more than half of them (60%) were Nursing Officers, followed by 19% housekeeping and 11.4% were Senior Residents (Figure 3). Out of 500 observations made 237 nursing officers (NO), (87.1%) performed all the steps of doffing correctly. Followed by Ward attender, Junior Residents, Senior Residents, technicians and housekeeping staff performed all steps (42%, 40%, 19.2%, 14.7%, 12.6% respectively (Figure 4).

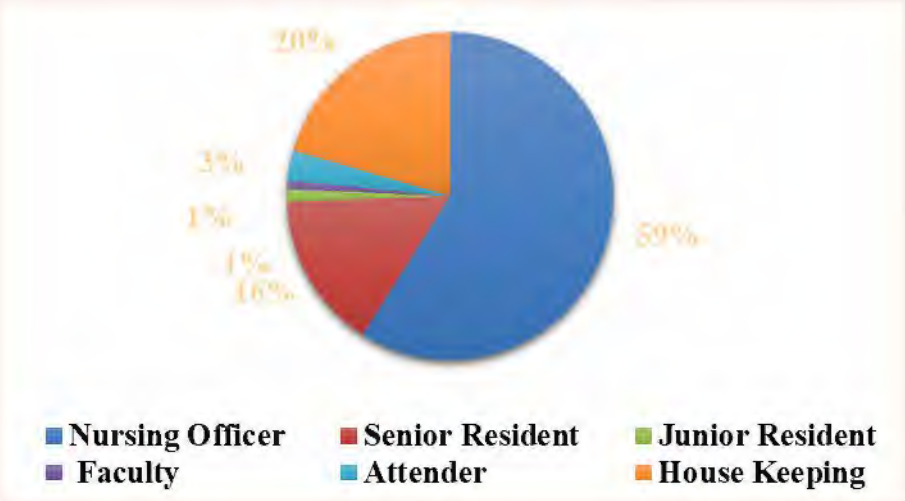

Figure 1: Percentage of health care professionals observed for donning procedure

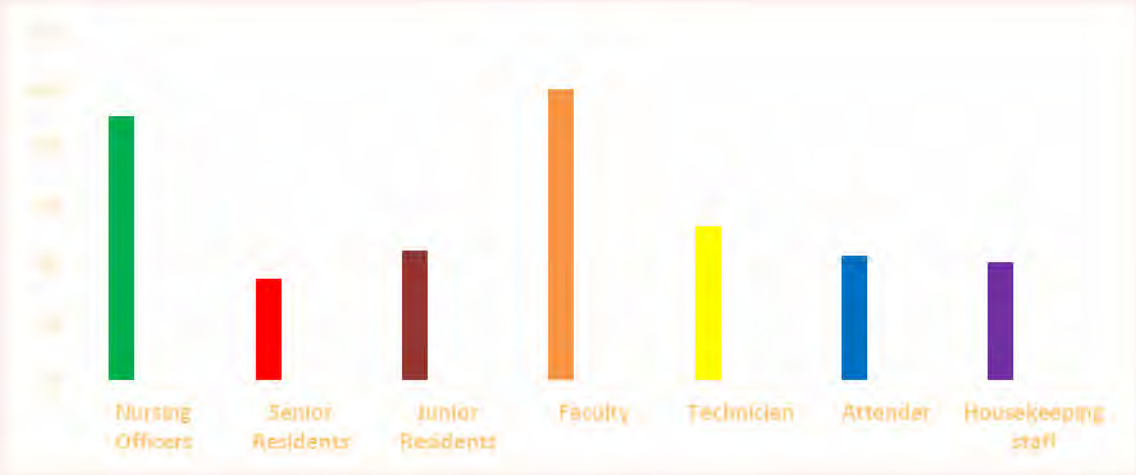

Figure 2: Percentage of health care professional completed all steps in donning procedure

Discussion

The present study on patient safety initiative intervention emphasizes to continue the training on PPE and to reinforce the steps which were not performed or partially performed whilst ensuring the health care professional concentrates on those steps more to protect themselves. The National Institute for Occupational Safety and Health (NIOSH) also recommended that in the health care setting various strategies should be initiated and investigated to mitigate organizational, environmental, individual barriers that limit the use of PPE by health care personnel (3).

Strengths

All health care professionals were trained well on donning-doffing before observation.

PPE training was useful for safe practices among all health care professionals and the training program has been continuing till date.

Limitations

Health care workers who were on night shift were not observed for PPE adherence.

Generalizability of the findings may not be applicable, because of unequal distribution of participants.

Conclusion

Making the workplace safe is the prime intervention for patient safety. Once the health care professional is safe to work in an environment, they can facilitate and implement patient safety strategies. It is challenging for all health care professionals to battle COVID-19 pandemic because it is a highly contagious disease. We the faculty from College of Nursing were able to initiate patient safety during COVID-19 by PPE training and conducting surveillance for health care professionals working at AIIMS Bhubaneswar in order to reduce risk of infection transmission while caring for patients with suspected and confirmed with COVID-19.

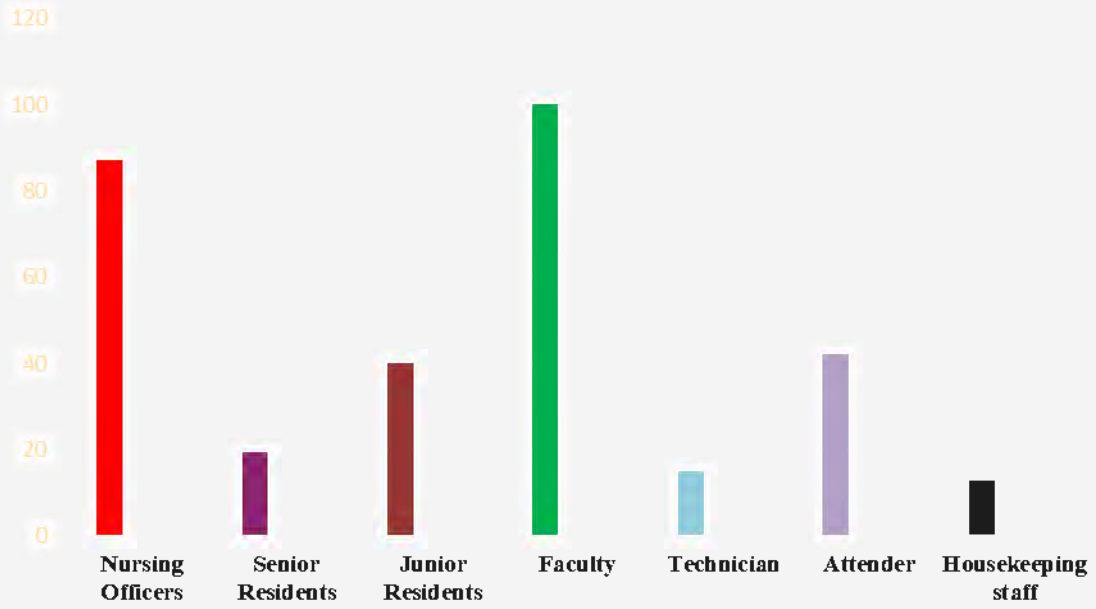

Figure 4: Percentage of health care professional completed all steps in doffing proce-

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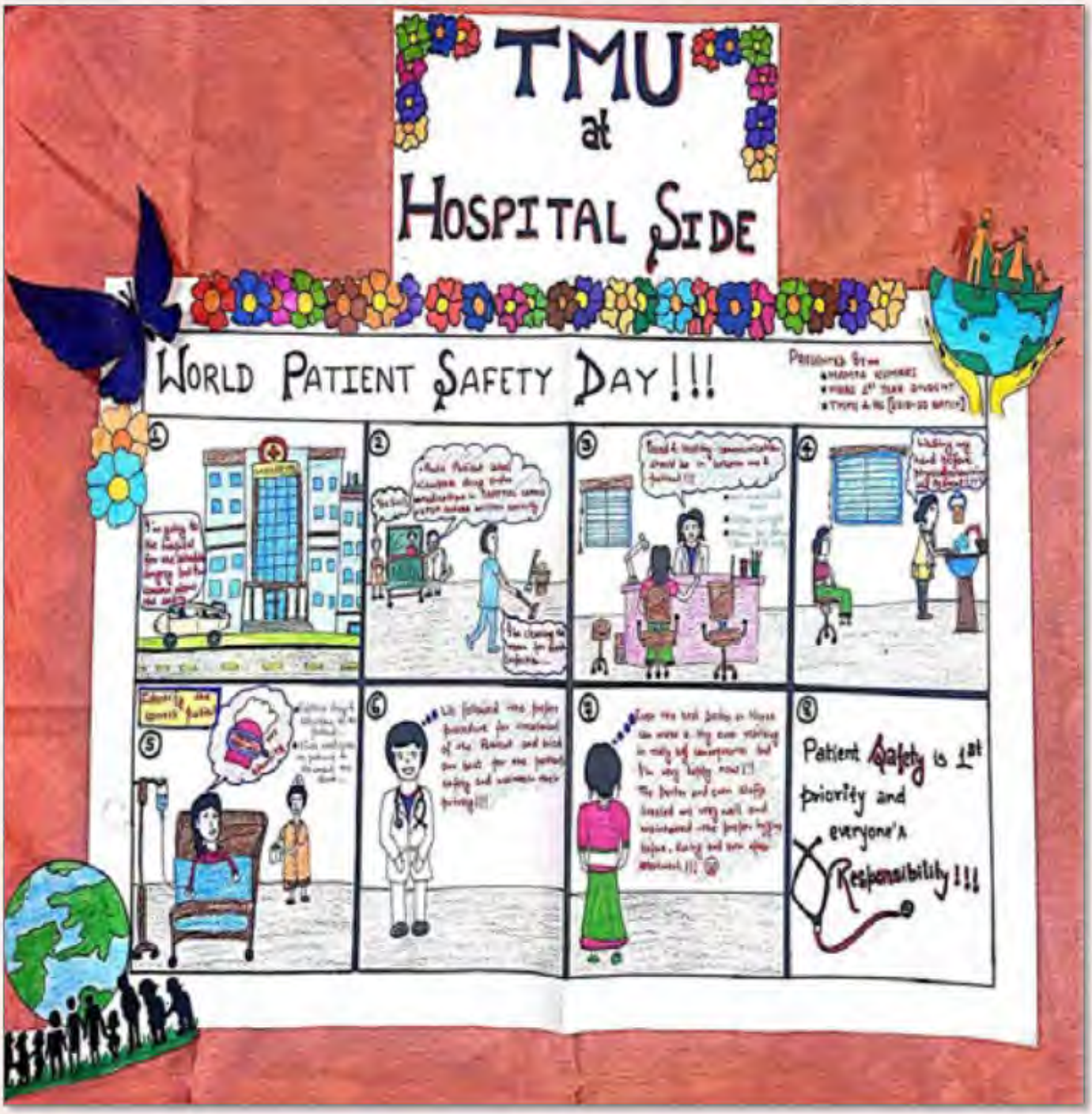
Cartoon



Cartoon by Miss Mamta Kumari

Story

Tribulations of a Trialist!

Dr. Rajeev Aravindakshan, Additional Professor,
Department of Community and Family Medicine, AIIMS, Mangalagiri

The young man walked out of his OPD room with a smile of gratitude. He was not the same guy who had been wheeled in from the charity wing of the institute a month back. His bystanders were not the same people who had been baying for his blood a month earlier! Surgeon thought aloud, "Why do I have to bet my safety at the mercy of patient safety? What should I weigh more? My integrity or the desire to save patient lives? Why is a new investigational treated like a poison?"

A pile of scrubs almost tipped him over and the surgeon realized that he was at his pseudo bachelor pad. He missed his family badly and his classmate who was her daughter's teacher had called the previous day to tell him that his kid was dropping in grades in mathematics. He had joked, "doctor's kid na? Maths will not be a great strength." He added, "the class teacher is waiting to talk to you." A brief tug at the heart was the only break he got before the mobile phone rang loudly. The research coordinator was on the phone. "Sir, there is a patient who might need an abdominal surgery today and he might be suitable for the new antibiotic study we have initiated last week." He was crushed. He wanted to finalize the application form for promotion on that day. Being a surgeon involved in clinical research was not easy. The case in question had been referred from the rural health centre attached to his institute the previous day. He knew about the tiller accident which had caused a blunt trauma to the patient's abdomen. But considering the economic status of the patient, he had been admitted to the charity wing of the hospital. He knew he was in a dilemma. How could he ask the colleague from that division to hand over the patient to a research study of a 'wonder antibiotic of the next decade'? The real story was totally different. Clinical research was taken to be the antithesis of patient safety. The other unit chiefs had quipped, "clinical research is a money spinner and was detrimental to the interests of poor patients." The idea was that the money involved in the trials will cause the patients to tip over into the so called "trial" and the tribulations will be the only result of the enrolment.

Research coordinator woke him up from this reverie. "Sir, can I call the team to start enrolment of the patient? Head of the department can talk to the other division and get the assent from the patient. The patient is most likely going to need a surgery and the nurse says the chance of him surviving looks low if he continues to be in the other division." This was this ethical dilemma and the personal pressure of completing his promotion application was tipping him to the opposite side. Just last week, the head of the department had informed him that the staff selection committee was not entirely happy with him because he is into clinical trials.

He cursed the day when he agreed for the clini- cal trials division of the institute. A promotion would have been easier if he stuck to the corporate division and made money for the institute. But he had thought it would be better if he contributed to the advancement of science. "Good clinical practice", they said, "is followed in clinical research". The chance of working up the patient totally without consideration of monetary angle was attraction too because the CRO had made the protocol airtight and funded it totally.

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The dilemma was solved when his research team brought the patient party for informed consent procedure. Patient was more

than willing for enrolment knowing his chances of survival from the intestinal injury was much better if the new antibiotic is administered. The other units had started murmuring and soon the data safety monitoring section was hovering over the premises. His promotion was on a tattered path, he decided. The young man, however, was adamant that he wanted in. The initial procedures completed, the patient was randomized into the trial. The surgery was scheduled and went smoothly as expected. A portion of the intestine had to be removed. The unblinded team had initiated the antibiotic drip already and there was no way he would know which drug was being administered.

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Nightmare started in two days. The data monitoring safety sentinels were sniffing around. They tracked the patient for adverse events. And they were rewarded in the form of laboratory reported severe thrombocytopenia. The gossip mongers were at work too talking about an intra-abdominal bleed which almost killed his patient and the grape-vine was growing luxuriously. Clinical trial ghouls had claimed another victim as per the patient rights groups. His promotion had gone up in smoke. There will be an urgent meeting with the ethics board of the institute; not to speak about the public outcry about enrolling a critical patient in an experimental study. Bystanders were reportedly crowding the visitors' corridor to get news about the patient. The young man's face haunted him whom he had visited an hour back in the post-op ward and was doing alright as per his trial team.

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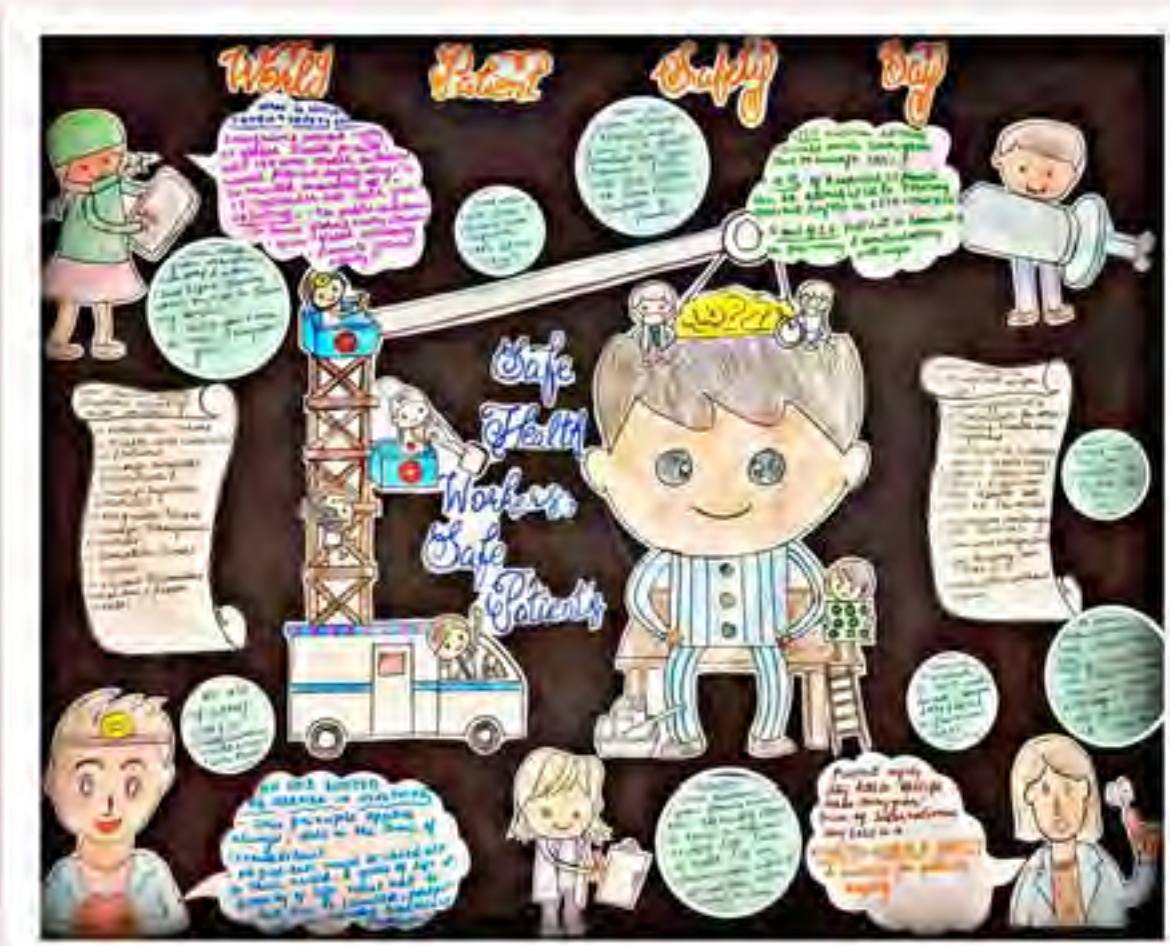
After the ethics and data review he was told to unblind the patient urgently and stop the antibiotic immediately. Had the wonder drug failed him against the standard antibiotic? Why did phase 2 studies not point at this possibility and get him out of trouble? Answer was soon for all to see. The patient had not received the new antibiotic! It was the good old comparator which had been randomized to the patient!



Cartoon by Miss Aliza Yashfeen

The Ultimate Paradox

Ms. Shruti Sonal, First Year MBBS, All India Institute of Medical Sciences, Rae Bareli

Story

On December 5,2019, Aryan was having the night of his life. After days of hard work and sleep deprivation, his semester exams were finally over and now he was determined to enjoy every moment of his vacation. Having spent an exhilarating evening with his friends, Aryan finally returned home around midnight. He said good- night to his parents and turned in. Everything seemed normal.

But at 6:30 am the following morning, things were far from normal. His mother awoke to the sound of her nineteen year old son choking to death in his bedroom, just a few yards away. She rushed into his room and found him unresponsive, lying face down in his own vomit. In the hours that followed, everything was a blur of confusion and chaos. His mother would not stop wailing and his father looked as if his heart had been ripped out of his chest. As Aryan was rushed to the local emergency room, the head doctor, Dr. Arvind Das, tried to console his parents.

"Mr. and Mrs. Garg, I want you to understand that your son is in the best hands. We will try our level best to cure your son; whatever it takes. Do you understand me?" And laying a reassuring hand on their shoulders, he turned around and vanished into the emergency room. However, as the minutes ticked away and the results of various tests came out, the doctors grew more and more worried. A CT scan revealed wide- spread and diffuse damage to his brain, with no clear borders between healthy and damaged tis- sue; common when the brain has been starved of oxygen. Dr. Das knew that Aryan was hanging onto life by a thread. On admission, he had a Glasgow Coma Score of 3 out of 15. A person cannot score lower than a three, not without being dead. But the team of doctors assigned to Aryan did not lose hope. All through the long hours of the night, the team worked tirelessly; striving to restore a normal heartbeat, blood pressure and a good supply of oxygen to the brain. But despite their best efforts, Aryan lapsed into a vegetative state in the wee hours of the morning. After the rest of the medical team had cleared out, Dr. Das stood alone by Aryan's bed, solemnly observing the still figure of his patient. As head doctor, he felt directly responsible for the boy's condition. A deep anguish crushed his heart as his thoughts drifted to the boy's parents. They were still in the waiting room; hoping and praying that their little boy would recover. Steeling himself, Dr. Das stepped outside to deliver the distressing news to the boy's parents.

Initially, when he had seen the head doctor approaching, Mr. Garg's face had lit up with hope. But now, he could barely fathom the words falling from the doctor's lips. "Anoxic injury…..brain damage…..coma," what was this doctor talking about? He refused to believe that his son, his dear little boy, had slipped into a coma from which it was difficult to recover. "Doctor," Mr. Garg inter- rupted, "Aryan will be well again, won't he?" "The damage to Aryan's brain is very extensive," replied the doctor, "At this stage, it is difficult to say anything."

By this point, Mr. Garg had become numb to all sensations. He barely even noticed his wife fainting by his side. All he could think about was how his little boy's bright future had been cruelly torn away from him, in just a matter of seconds. All he could feel was an uncontrollable rage; an anger so intense that it seemed to consume his soul in its fiery flames. Aryan's condition was surely due to the doctor's negligence, he reasoned. The doctor must have given up too soon or not put in his best efforts to save his son. Without any warning,

Mr. Garg attacked the head doctor. In no time, some of Aryan's relatives who had arrived at the hospital, also joined the assault. The waiting room descended into may-hem, with fists and blows being exchanged everywhere. Dr. Das tried his best to defend himself but he was no match for the bulky men who seemed intent on beating the life out of him. After some of the harrowing moments of his life, Dr. Das was finally rescued by the security guards. He had sustained multiple injuries, some broken ribs and his eye was swollen black. The police, which arrived on the scene a few minutes later, only managed to arrest some of his attackers.

As the news of this shameful incident spread, the entire city was left in shock. The heart wrenching ordeal made headlines in newspapers. All the doctors went on strike, demanding justice for their colleague who had been assaulted brutally despite putting in his best efforts. Inevitably, treatments at hospitals were delayed and the quality of health care dropped.

Five days later, a patient was admitted to the same hospital where Aryan had been treated. This patient, in an attempt to escape the police, had jumped down from a high fence. Both his legs were now broken and he was in severe pain. But alas! There was no available doctor to pro- vide immediate treatment.

Who was this patient? A thief, a murderer or perhaps a drug dealer? No! The patient was none other than Mr. Garg, Aryan's father. Seeing his pitiful condition, people could only remark,

"Safe health worker, Safe patients"

Cartoon by Miss Uditi Jain

The Secret of Patient Care is Caring for the Patient

Dr. S. Deepak Vigneshwaran, Chettinad Hospital and Research Institute, Kelambakkam

Story

It was a chilly September afternoon and Rakesh waited outside the glass door to the hospital laboratory. He was calling the catering service to finalize the menu.

Rakesh scrolled through the call notifications that read 'Mom', 'Friend's gang' and 'Fiancée. Rakesh's wedding is just two weeks away.

“Rakesh!” called the lab staff. He went near the door to collect the blood reports. It was just a routine check-up that his father-in-law insisted that both of them should do and he very well agreed to it.

He stared at it and could not understand what the “positive” near the word HbsAg stood for.

Rakesh was devastated to know from his physician that he had acquired a viral infection that may last his lifetime. He could not understand how he got an infection such as this, which he learnt that it spreads through blood and also sexually. He was an average student but a well- disciplined person who his mother used to brag about, to her friends.

Rakesh could not control his emotions and cried out loud. His thoughts wavered from his father who was busy with the wedding decorations and his mother with her sweet preparations.

His whole family was excited about his marriage.

"Yes" replied Rakesh. He was explained that he could have got this infection through a needle that was used on some other person or from a health care worker who may have this infection.

“What could he tell his fiancée about this, his family….' Rakesh felt like he was fainting.

He was brought back to reality by his physician questioning about his personal life, to which he answered honestly. His physician asked, "Were you hospitalized before?" That's when he remembered he had an injection at a local clinic for fever eight months ago.

Rakesh wanted to know if this could be cured. He was informed that he needs lifelong treatment and he could be a carrier to this disease. Rakesh's heart sank. His whole life turned upside down due to these turn of events.

His mother and father were shocked to hear this news for which he took great pain to reveal. He called his fiancée and explain the situation with a heavy heart but his fiancée calmed him down and told him she would be there for him.

The next morning Rakesh and his fiancée went to the hospital together for consultation and counselling.

As they waited, Rakesh saw a nurse giving an injection to a small boy across the hall in the injection room….

Cartoon

Cartoon by Mr Patel Milan Bharatbhai

Storge Amidst Pandemic

Ms. Anjali Singh, MBBS Student, Teerthankar Mahaveer Medical College And Research Centre (TMMCRC), Uttar Pradesh

"Yay! Mom will also dress up like Kungfu Panda!"

Rishu, my eight year old son exclaimed in joy on seeing my name in COVID-19 duty roster. Here the panda dress pertained to PPE.

Wished even I could match to his frequency but I was too startled and appalled thinking how is this possible? My name in COVID-19 ward duty list! The GM knows it well that I am suffering from Dysglycemia and weak immunity, there has to be some misprint.

"Vidya but your department is Anesthesia, whose role comes only when patient comes on ventilation, that too you are a senior associate. Aren't there enough juniors in your hospital that now even a senior doctor is been assigned COVID duties?"

"No Ravi, either there has to be some misprint or after so many resignations from doctors, serious shortage of doctors has occurred. Ravi, see I really don't know if I will come out through this safe or not but you will have to take care of Rishu and Ria. I can't stake you all because of me. I didn't think this is the last year of my…."

"Hey mom! Why are you over reacting? It's nothing like the end of this world scenario. It's just a virus and just 2 weeks back you were the only one who was speaking out loud to your students that one should put a brave front and need not worry much. Is this the same Dr. Vidya mam I am talking to?" Ria said, giggling out loud.

I gulped; it's always easier said than done. Obviously I already knew these things, but the fact which isn't in the limelight is what if I get infected? What if I succumb to it? I still remember the day I took the Hippocratic Oath. I haven't forgotten a single word of it. But the main question still remains unanswered, WHAT WILL HAPPEN TO MY FAMILY AFTER ME? Ravi is too busy with his administrative job transfers; Ria is still a novice teen and Rishu…. I can't im- agine a single day without him enveloped in my arms, are they really that old enough to be self-sufficient in this world?

Tears rolled down my eyes, it felt like it's the end of it. I completely knew from inside that my overthinking will drive me paranoid, I wasn't appreciating the positive aspect of this, too blind in worldly attachments.

My duty was going to start from next week. I couldn't sleep all night. Loads of confusions and misconceptions overshadowed me. Pessimism towards my life dreams, defeatism towards Corona, negativity and cynicism towards GM made me feel so gloomy. I just stared at Ravi's peaceful face, how can he be so relaxed about this? Then I gazed at those blushed tender cheeks of Rishu, a sudden gush of overwhelmed illicit and selfless motherhood spoke up from inside–"No Vidya, resign from this post, you can't be with- out them."

Next morning the GM sent for me. I, pretty dis-appointed, went to his cabin but since he knew me from my residency days, I couldn't disrespect him .So I placed a pseudo calm front. He smiled at me and asked, "So, are you planning to resign like other doctors too?"

Quite surprised by this, I answered, "I don't have any other options left. Had I been the same Dr. Vidya of 25 in 2009, with no family, no boundation and no personal responsibilities, I would have been reluctant to fulfill my job as a COVID warrior. But I am sorry, I have a family to look upon, I just don't feel I am strong enough to tackle this." My voice started to break as the inside of me was too guilty to admit that I failed as a doctor.

"A part of me sir wants to acknowledge the positive root causes of this, its troubling being so over strained with negativity. But the stronger pivot in this is played by the feeble part, which is just about what will happen to my family after me? Do you think I will be able to work effectively with this mindset? My body might remain here but my soul will be bewitched with endless concerns for my kids. People tweet that we are divine warriors, it's our duty to be there for our patients. Agreed, but they don't understand that even we are having our own circle of responsibilities. I am not stepping back from this cause of disinterest or slothfulness, but just that I don't want my family to suffer. Is it really that wrong to have such bonds along with this job? Can't a female doctor continue to be a mother or wife as well as impart the same feelings to her patients too? If I die, my picture be hung on the wall titled, 'in memories of unsung heroes', some random Instagram stories and tweets on my demise and then it's done! We doctors are also human beings and should be well acknowledged like that! Now please excuse me sir. Thank you!" Saying this I furiously left the cabin.

In the evening, another guilt of not following the code of conduct and being impudent awaited. Reluctantly I picked up my phone to apologize to sir, but a text left me startled,

"Vidya, I have talked with the higher authorities. They have agreed to grant guest house facility to you, free of cost throughout your COVID duty for two weeks. You will be allowed to visit your family only when you test negative post- duty nd don't worry I am not offended."

A smile of contentment and composure beamed on my face!

Cartoon by Miss Shruti Aggarwal

The Doctor's Sacrifice

"IF THE DOCTORS ARE SAFE…. THEN PATIENTS WILL BE SAFE"...

Ms. Poorvi Ranjan, MBBS First Year, Teerthankar Mahaveer Medical College And Research Centre (TMMCRC), Uttar Pradesh

Story

The whole world is suffering from COVID-19 Pandemic. India is also trying to save itself from this crisis. Every effort is being made to save the people who have been infected with the virus. Doctors are treating infected patients by keeping their lives in danger. In spite of all this, there have been reports from many parts of country where people have abused and attacked the doctors. In order to open the eyes of such people here is one story of a Doctor who sacrificed his life saving people's lives.

This is an incident that took place in a small remote village in South India. One of the doctors named Dr. Singh was a senior and experienced doctor. He was rendering his services in a small hospital of the village for many years and villagers loved and respected him a lot. Dr. Singh and his team were continuously treating the patients during the recent COVID-19 outbreak. Many patients recovered and defeated the virus but a few people also lost their lives. These doctors were far away from their families and unable to meet them for months being frontline warriors against the virus. Dr. Singh also tested positive for COVID-19 while providing treatment to patients and he realized that he would not be able to survive for long. One day he visited his family before his condition became serious. The doctor stood outside the gate after reaching his home, about five meters away from his children. The children were excited and had wanted to run to and hug their father. But he told them not to come closer and to stay away. The children were unable to understand why their father was not letting them embrace him. His wife knew every- thing. He expressed his love to his family and assured that everything will be fine and returned to the hospital. The villagers were getting disappointed and angry as to why the treatment was not working in all patients and why a few also lost their lives. They had the misplaced doubt that since doctors could cure most of the villagers who had already recovered from this disease, why the team could not save the few who died. They lost their trust towards the doctors because of this. Some of the villagers started revolting against the doctors and staff members upset by this. They attacked the hospital and caused serious injuries to the junior doctors, nurses and paramedical staff. Equipment were destroyed and essential machines were damaged. This caused serious loss to the amenities and instruments of the hospital. The injured doctors and staff were admitted in the hospital for treatment. When Dr. Singh received the news, he was depressed by the thought of villagers committing such indecent acts. This had caused an even more difficult situation for doctors in treating patients. They were reluctant to treat the patients because they feared that if a patient died the villagers would attack them again. But being a health worker, they had to keep their patients' health as first priority as well.

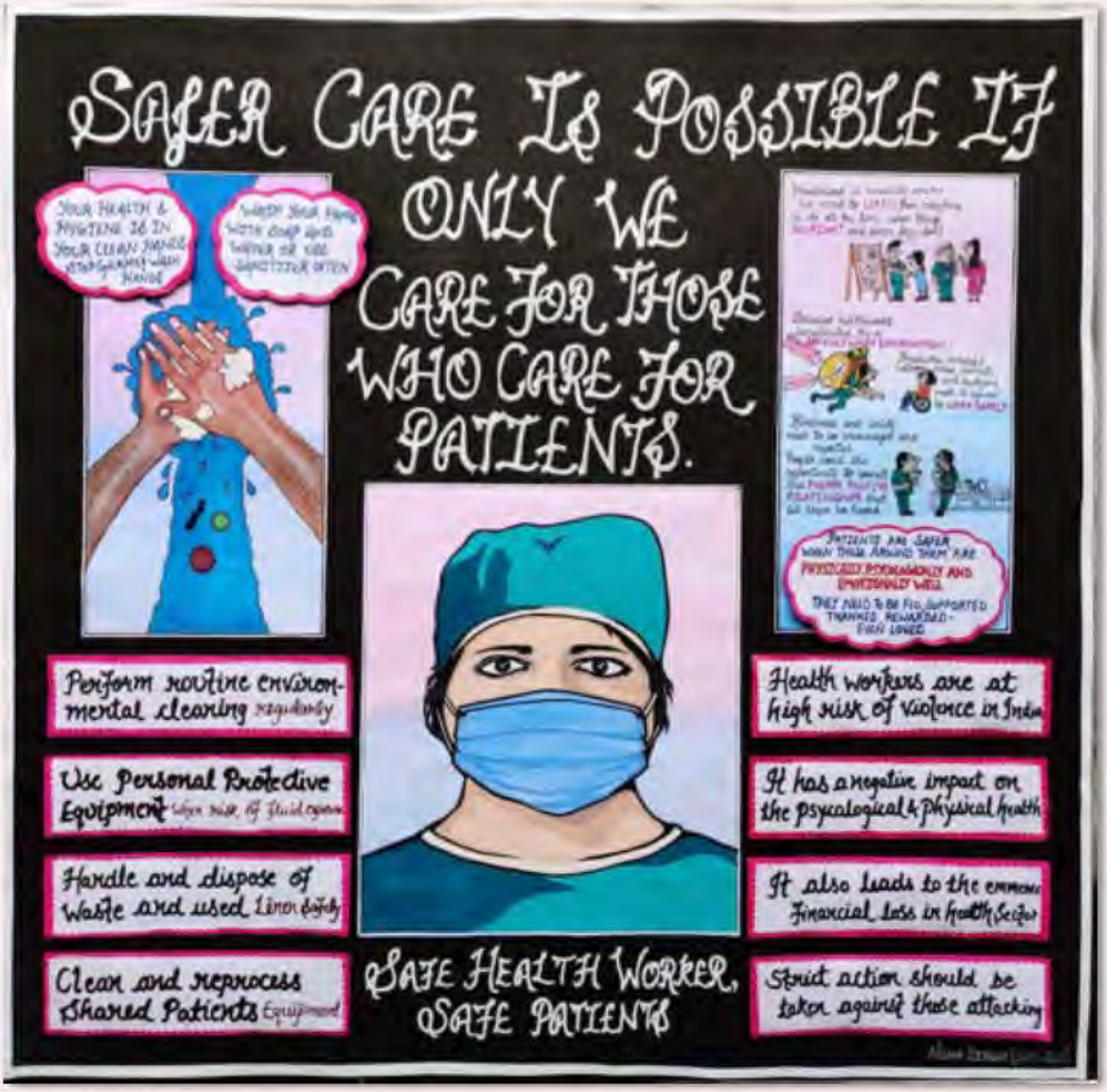
Dr. Singh eventually died because of the disease two days after the incident. When the villagers came to know that Dr. Singh (their Best Doctor) also died because of the very same disease, they felt very sad and realized their mistake. They realized that it was not the doctors' fault and it was the deadly pandemic disease which was causing the death of people. The villagers realized that their safety was in the doctors' hands and safety of doctors had to be their priority. They felt really ashamed about their behavior towards the health workers and took a pledge to fight against this disease with full positive attitude while ensuring health workers' safety. Homemade masks were distributed and a government school was converted to quarantine center. Awareness was spread, with the support of the *Sarpanch* and the collective help of people. This united effort

played an important role in increasing recovery rates and they were successful in making their village a "corona-free" village soon enough. This, they felt, was the right way to pay homage to Dr. Singh.

It is indeed the duty of every citizen as well as government to save the doctors and health workers and treat them with positive frame of mind to get rid of all fatal diseases of our country.

Poster by Mrs Anu C. Vijay

Art Work



Art work by Miss Neha Singh

Cartoon

Cartoon by Mr Kevin Edwin Sam

Health Lives Matter

Miss Khushi Tripathi, MBBS Student, Teerthanker Mahaveer Medical College & Research Centre

Poetry

The wave of happiness had spread like an allergy,
the arrythmia of that day was higher than metallurgy,
electricity in the synapses had reached beyond threshold;
the day a child in the household had turned into a medico.
The journey was tedious; it took more than it gave,
for knowledge profound; the child kept paving her way.
At every stop she looked at her mom; she urged her to keep going...
that she was making her proud.
So many new faces; even so many more masks,
the limited company kept on decreasing with the arduousness of the tasks.
Battered but equipped with dreams the budding doctor trained hard;
she had hoped to become a medicine bard.
Her sleepless nights would help someone sleep,
her flickering soul would become the reason someone lives.
The emotional turmoil would go away; when her first patient smiles her away.
Of course, the respect came hand in hand; she'd worked so hard to become God'sright hand.
The day of the final deal came finally; the final sacrifice she made so willingly.
From that day she was no woman,
she was a healer who answered to no name.
Need was her beacon; she had no other calling,
Devoid of any religion; she now only followed healing.
Little did she know a test would come so early,
A pandemic came and it shook her core; people dying in thousands it all seemed so Gore.
She cried each night knowing what little she could do; so many hands outstretched so little she could hold on to.
Her mother begged her to stay behind; her husband and infant standing behind this imaginary line,
she stopped looking them in their eyes; she knew any promise she made was as good as a lie.
She worked everyday but experienced a change; fear had made all the smiles go away…all left behind was thankless exchange.

Why am I doing this? She asked herself;

How could you not? Her heart whispered back.

It went on till one day she met a woman; who told her how she had lost her brother and husband,

She thanked her for everything that she did; even scolded her for looking like a dry branch twig.

She told her to smile, eat on time.

"My safety is important but so is thine".

The world won't change it's a sad little place; think about your family too…

what hardships they must face.

She went home that day to hug her child; sung to her husband who worried for her life.

Health-worker's safety is so easy to understand,

A bio- warrior who doesn't have to be framed; it's just a matter of precautionary ways.

The next day the lost bird had found her sage; the arrhythmia back in her rib-cage.

Of safety and precautions please be aware; it is a time when every human needs care.

She now walked her journey but with a new flare; After all;

A safe and healthy health-worker would mean better health care.

Art work by Dr. Monica Kakkar

OPD AIIMS Mangalagiri
on the Eve of
World Patient Safety Day 2020