



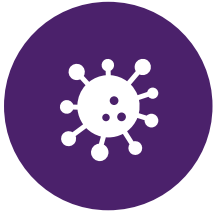
"Enhancing Infection Control Practices in the Dialysis Day-care Unit: A Comprehensive Assessment at Fortis Escorts Hospital, Amritsar"

**PRESENTED BY:
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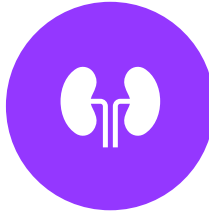
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**MENTOR:
DR. ANOOP KHANNA**

INTRODUCTION



Infection control is a cornerstone of patient safety and quality care in healthcare settings and a critical aspect of Recommendations management, especially in specialized settings like dialysis units



Hemodialysis (HD) patients are particularly susceptible to a range of infections, such as **bloodstream infections and localized infections** at the vascular access sites like arteriovenous fistula (AV Fistula), double lumen catheter (DLC), and permanent catheter



The high risk of healthcare-associated infections (HAIs) in HD patients stems from their **immunocompromised status, proximity to other patients, regular contacts with medical personnel, and lapses in the adherence** to recommended practices, such as hand washing and wearing personal protective equipment (PPE)



Bed cleanliness is another key infection control measure in dialysis units. It helps mitigate this risk by ensuring that the treatment areas, including beds and surrounding surfaces, are thoroughly disinfected between patient sessions. Therefore, it is crucial in **preventing cross-contamination** and ensuring a safe environment for subsequent patients



Dialyser reuse, a cost-effective practice, refers to the **practice of cleaning, disinfecting, and reusing dialyzers** for the same patient across multiple sessions. Properly executed, dialyzer reuse involves meticulous cleaning and thorough testing to ensure the dialyzer's functionality and sterility are preserved, thereby safeguarding patient health



While this practice can significantly reduce operational costs, it also presents a unique set of infection control challenges. Proper procedures must be followed to ensure that **dialyzers are effectively disinfected and safe for reuse**. This method **necessitates strict adherence to sterilization protocols** to prevent infections

KEY CONSIDERATIONS

5 Moments for Hand Hygiene

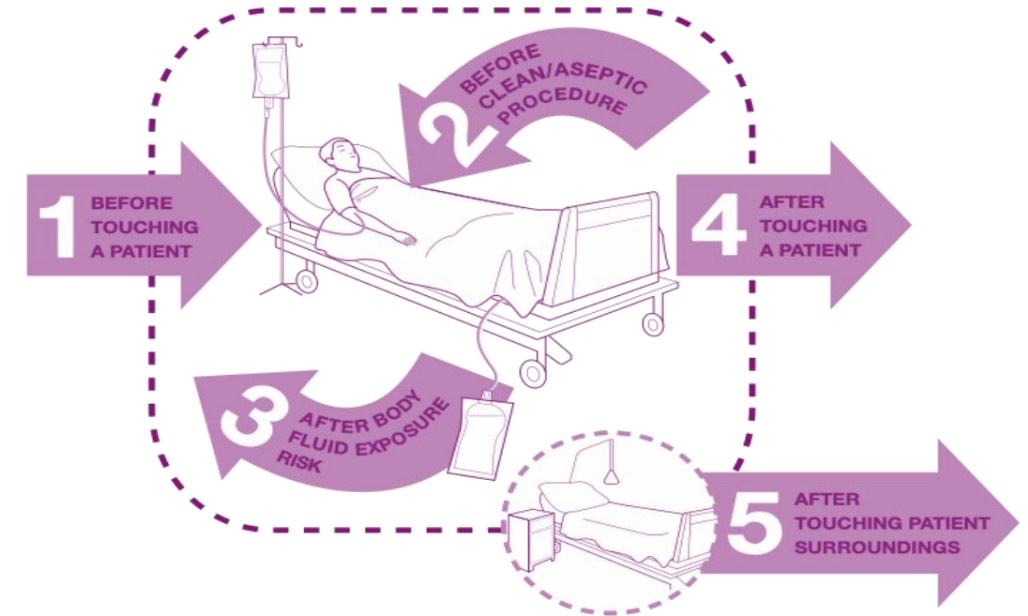
The WHO has established the "5 Moments for Hand Hygiene" to prevent healthcare-associated infections which include:

- before touching a patient
- before performing clean/aseptic procedures
- after body fluid exposure/risk,
- after touching a patient
- after touching patient surroundings.

Importance of Patient Feedback

- Patient feedback regarding the quality of service in dialysis units is a critical indicator of overall healthcare quality
- It provides valuable insights into their experiences and satisfaction levels, encompassing various aspects such as the perceived quality of care, cleanliness of the environment, and the effectiveness of infection control practices

Your 5 Moments for Hand Hygiene



1	BEFORE TOUCHING A PATIENT	WHEN? Clean your hands before touching a patient when approaching him/her.
	WHY?	To protect the patient against harmful germs carried on your hands.
2	BEFORE CLEAN/ASEPTIC PROCEDURE	WHEN? Clean your hands immediately before performing a clean/aseptic procedure.
	WHY?	To protect the patient against harmful germs, including the patient's own, from entering his/her body.
3	AFTER BODY FLUID EXPOSURE RISK	WHEN? Clean your hands immediately after an exposure risk to body fluids (and after glove removal).
	WHY?	To protect yourself and the health-care environment from harmful patient germs.
4	AFTER TOUCHING A PATIENT	WHEN? Clean your hands after touching a patient and her/his immediate surroundings, when leaving the patient's side.
	WHY?	To protect yourself and the health-care environment from harmful patient germs.
5	AFTER TOUCHING PATIENT SURROUNDINGS	WHEN? Clean your hands after touching any object or furniture in the patient's immediate surroundings, when leaving – even if the patient has not been touched.
	WHY?	To protect yourself and the health-care environment from harmful patient germs.



World Health
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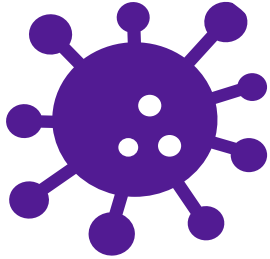
Patient Safety
A World Alliance for Safer Health Care

SAVE LIVES
Clean Your Hands

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OBJECTIVES OF THE STUDY



Assess the infection control measures to **minimize the transmission of infections** among the patients and healthcare workers in the dialysis department.



Evaluate the **compliance to established SOPs** for the reuse of dialyzer in the dialysis department



Assess the level of satisfaction among patients receiving care in the dialysis department and **identify areas for improvement** in service delivery and patient experience.

RESEARCH METHODOLOGY (1/2)

RESEARCH QUESTION



What is the compliance to existing infection control practices and level of satisfaction among patients to the services in dialysis department at the Fortis Escorts Hospital, Amritsar and how can they be improved to minimize the risk of infection transmission among patients, healthcare workers

STUDY SETTING



The study was conducted in the dialysis department at Fortis Escorts Hospital, Amritsar. The dialysis daycare unit comprises a total of 11 beds, including 2 isolation beds designated for patients with HIV, Hepatitis. The staffing level in dialysis department typically included a multidisciplinary team of healthcare professionals which included consultant nephrologists (2), senior resident (1), medical officer (1), technicians (7), nurses (3) and head in charge nurse (1).

SAMPLE SIZE



60 patients who have undergone hemodialysis over and over again during the month of April and May, 2024. Total 374 opportunities have been observed for the infection control and hand hygiene measures.

RESEARCH METHODOLOGY (2/2)

INCLUSION CRITERIA



- Patients of all age and genders will be included.
- Patients undergoing any type of dialysis treatment including intermittent hemodialysis (IHD), Hemodiafiltration (HDF), Slow efficiency dialysis (SLED) will be eligible.
- All healthcare workers who are directly involved in providing dialysis care within the department. This includes consulting nephrologists, nurses and technicians.

EXCLUSION CRITERIA



- The IPD patients
- All the patients who have been tested positive for hepatitis B, hepatitis C and HIV and are in isolation room for the dialysis in the dialysis daycare
- Patients who are put on clinical research will be excluded

DATA COLLECTION TOOLS AND TECHNIQUES

1

The study involved a mixed method approach combining both **qualitative and quantitative research methods** to comprehensively assess the infection control measures and dialyzer reuse practice.

2

Two separate checklists were developed for **infection control** and **dialyzer reprocessing** based on the **SOPs of the hospital** and a **patient feedback** form was developed to evaluate the patient satisfaction

3

The data was **collected through open-ended and close-ended questions** with a rating method (rating scale: 0 being worst and 5 being best) to know the patient satisfaction rate.

4

Observational study was conducted to **assess the current infection control measures** including WHO'S 5 moments of hand hygiene, disinfection protocols and dialyzer reuse practices

ETHICAL CONSIDERATIONS

1

All data acquired throughout the study were kept private and confidential

2

Any information acquired from participants, such as personal details or comments, was kept confidential and anonymous.

3

Measures to ensure that the identity of the participants remained secured throughout the study

4

The investigation was carried out without any predetermined or biased influences that could skew the results in favour of a specific outcome

RESULTS (1/9)

Sample Data Demographics

The data was collected for the age group of 29- 81years of age where 128 were females and 246 were male patients. Most of the patients lie in the age group of 45-64 years of age.

Gender	Percentage of patients
Males	66%
Females	34%

Percentage of male and female

Age group	Percentage of patients
24-44	10%
45-64	60%
65 and above	30%

Percentage of age group

RESULTS (2/9)

TOTAL OPPORTUNITIES OF INFECTION CONTROL OBSERVED

A total of **374 opportunities** of infection control were observed during the period of month April,2024 to May,2024. Out of these 267 were performed by the technicians, 69 were performed by nurses and 38 was done by the nurse in charge of the dialysis department.

PERSON PERFORMING THE TASK	NO. OF OPPORTUNITIES
TECHNICIANS	267
NURSES	69
NURSE IN CHARGE	38

Table 3 : No. of opportunities performed by various staff

COMPLIANCE TO DISINFECTING VASCULAR SITE ACCESS

100% compliance was observed in the all the cases to disinfect the vascular site access (AV Fistula, DLC, permanent catheter) before initiating the dialysis session.

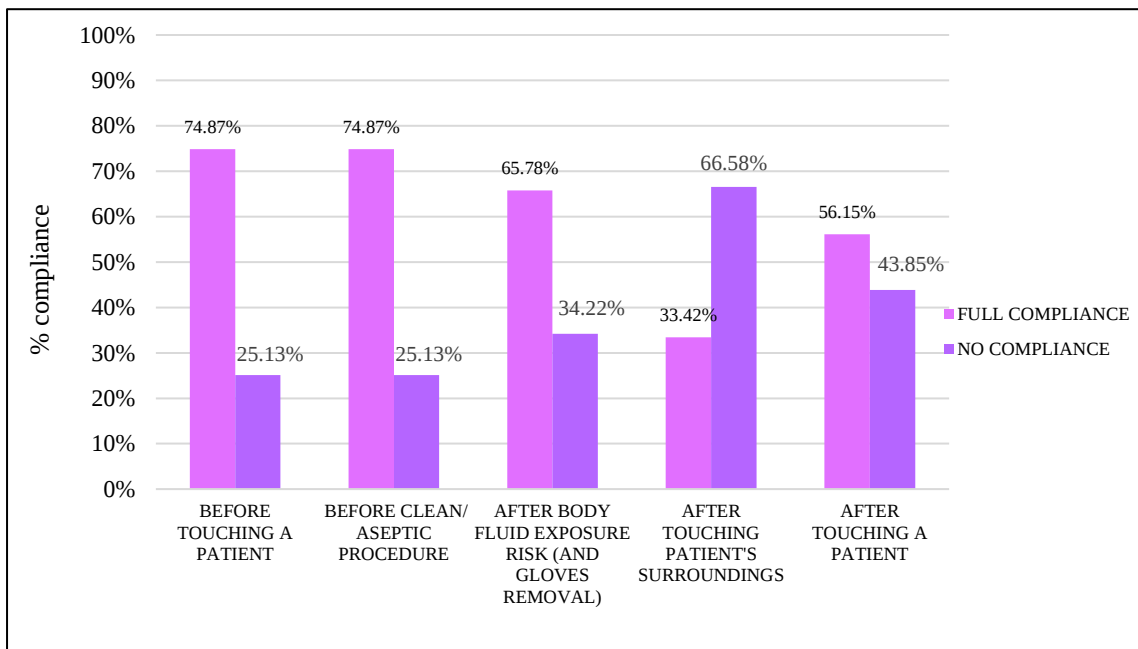
	FULL COMPLIANCE	NO COMPLIANCE
Patient vascular thoroughly washed with antiseptic solution before dialysis	100%	0%

Table 4: Percentage compliance to disinfecting vascular site

RESULTS (3/9)

COMPLIANCE TO WHO'S 5 HAND HYGIENE MOMENTS

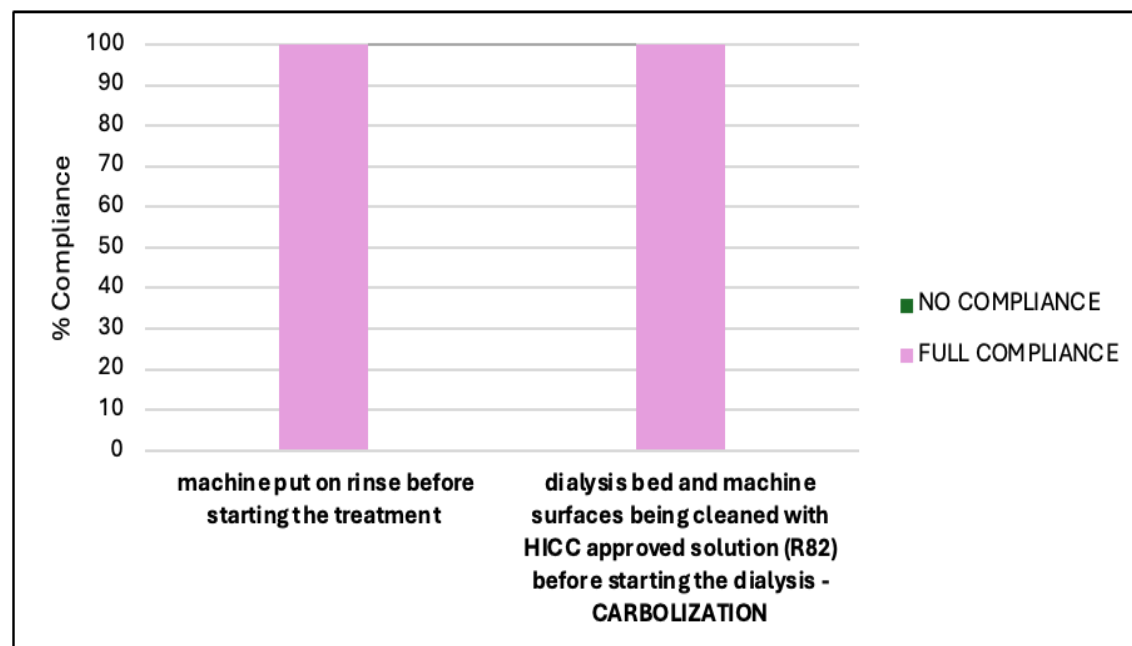
The data on compliance with WHO's 5 Moments for Hand Hygiene in a dialysis department reveals varied adherence levels. Full compliance is highest before touching a patient and before clean/aseptic procedures (74.87%), moderate after body fluid exposure (65.78%), and notably low after touching patient surroundings (33.42%). After touching a patient, compliance is 56.15%.



Compliance to WHO's 5 hand hygiene moments

COMPLIANCE TO FACILITY CLEANING

Out of total 374 observations, the carbolization of bed and rinsing of dialysing machine was fully compliant in all the cases, therefore showing a 100% compliance.

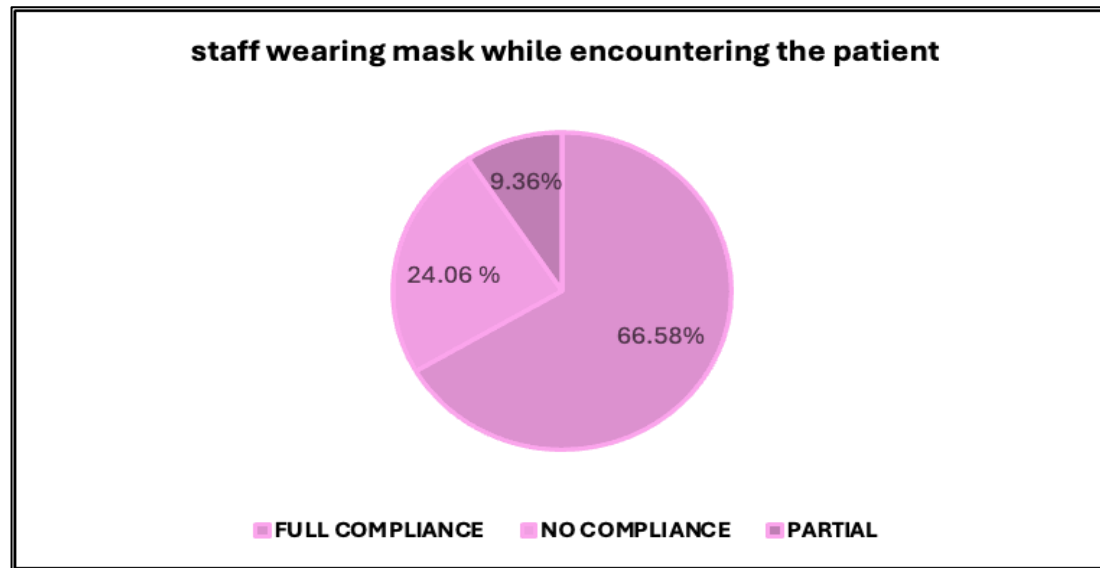


Percentage compliance to machine rinsing and carbolization

RESULTS (4/9)

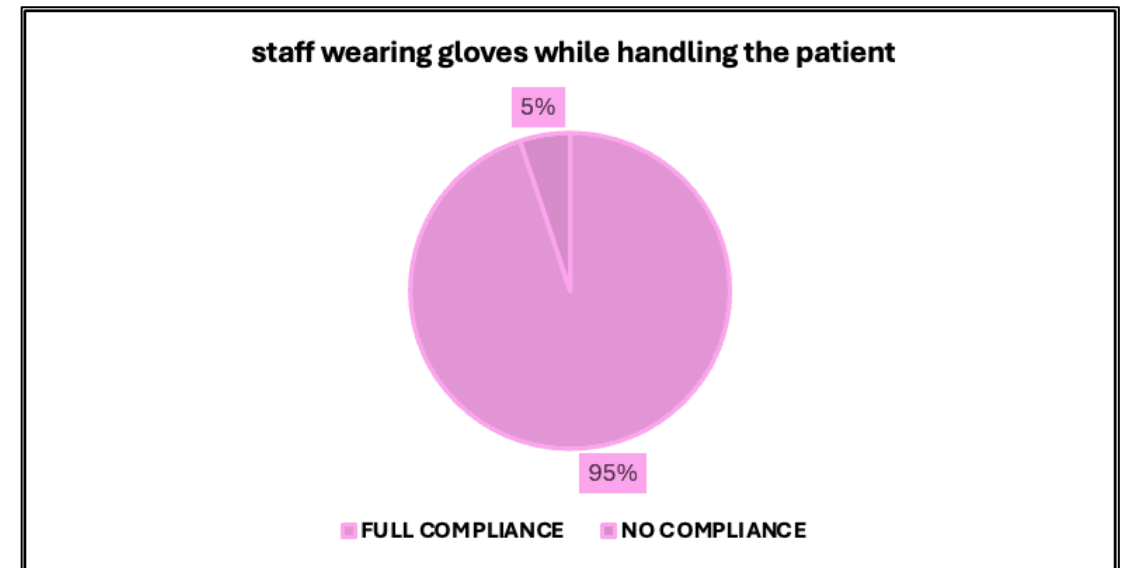
COMPLIANCE TO PERSONAL PROTECTIVE EQUIPMENTS

The pie chart illustrates the **compliance levels of healthcare workers to face mask** in a dialysis department. The chart shows that 66.58% fully comply, 24.06% of the staff demonstrate partial compliance, indicating that they follow the guidelines to some extent but may not consistently adhere to all the required steps. Finally, a smaller portion, 9.36%, shows no compliance, highlighting a critical area for improvement.



Percentage compliance to face mask while encountering patient

The pie chart illustrates the **compliance levels of healthcare workers to hand gloves** in a dialysis department. The chart shows that 95% fully comply, whereas a smaller portion, 5%, shows no compliance to wearing of hand gloves while handling the patients.



Percentage compliance to wearing gloves while handling patients

RESULTS (5/9)

REASONS FOR NOT WEARING GLOVES BEFORE ASEPTIC PROCEDURES

Out of 374 opportunities observed, in only 19 cases the healthcare workers were not wearing sterile gloves while inserting the needle (aseptic procedure). In most cases, difficulty in finding vein was the reason to not wear gloves, in 7 cases the patients switched to AV fistula for vascular access (earlier mode was either DLC or permanent catheter) hence, initially it posed problem to find vein. 3 cases were reported in which patients had swelling hence to have better access to veins for inserting needle, the healthcare workers opted not to wear gloves.

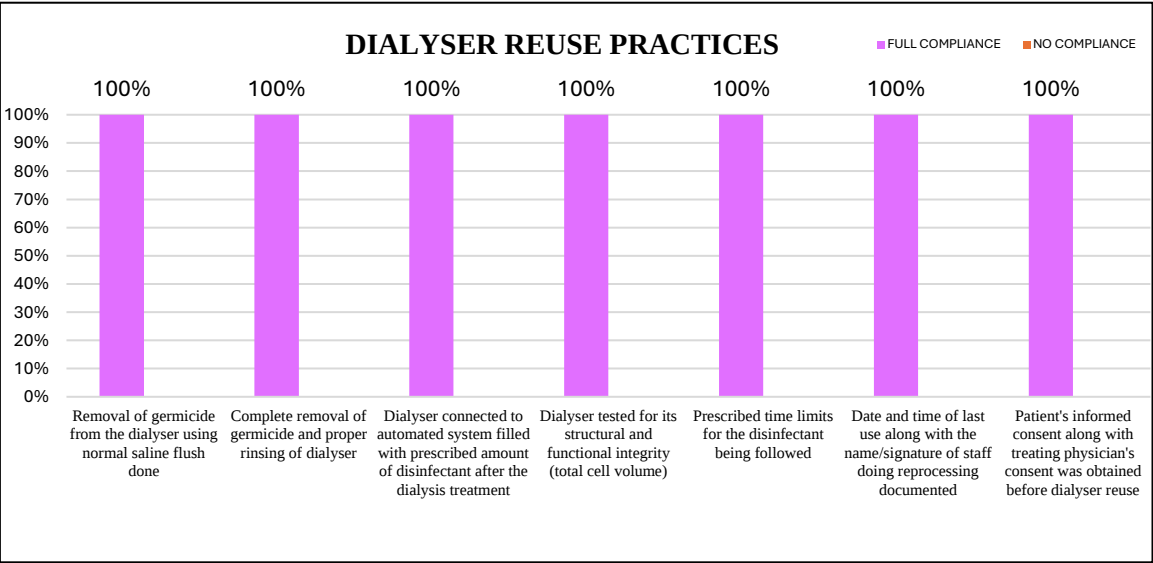
REASONS FOR NOT WEARING GLOVES	NO. OF OPPORTUNITIES
NEW FISTULA	7
SWELLING	3
DIFFICULTY IN FINDING VEIN	9

No. of opportunities where no compliance to hand gloves was recorded

RESULTS (6/9)

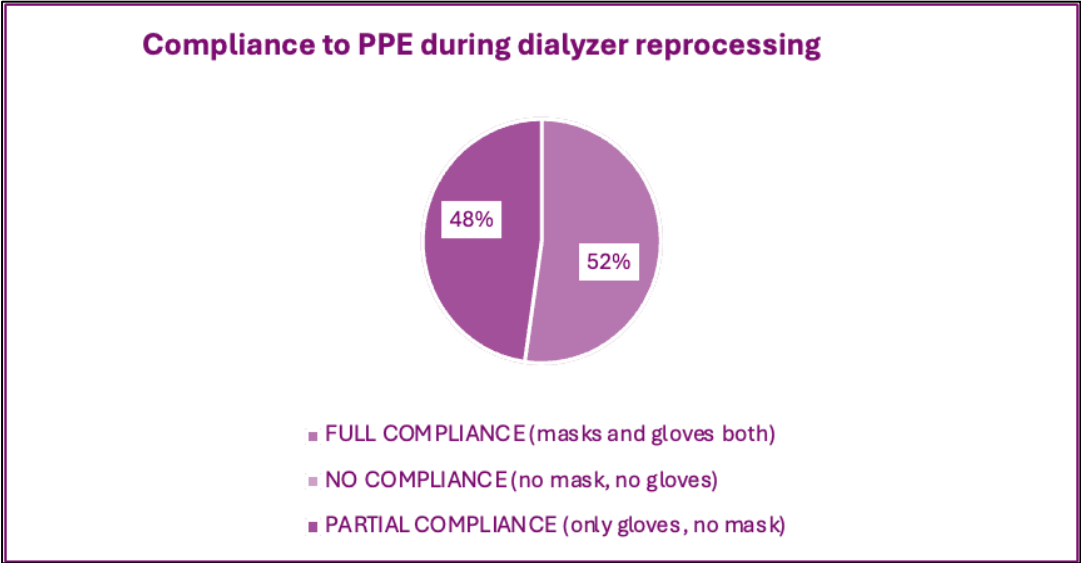
COMPLIANCE TO DIALYSER REUSE SOPs

Adherence to SOPs for dialyzer reuse is consistently 100% across all parameters.



COMPLIANCE TO PPE DURING DIALYZER REPROCESSING

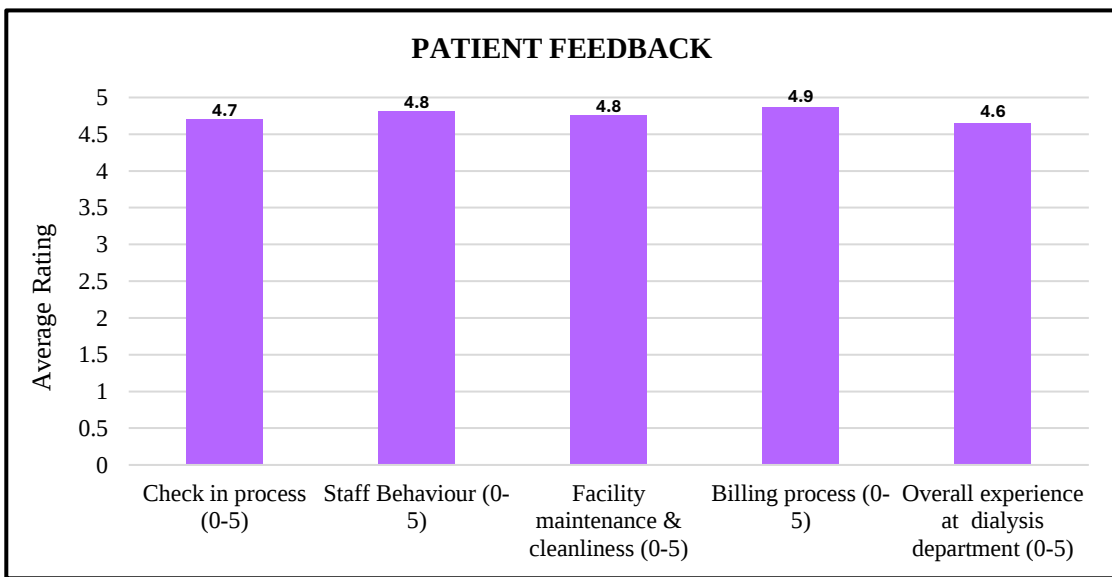
The pie chart illustrates the compliance levels of healthcare workers to personal protective equipment (hand gloves and face mask) during the reprocessing of dialyzer in case of multiple uses. The chart shows that 52% fully comply (both face masks and hand gloves), 48% partially comply (only hand gloves but no face mask).



RESULTS (7/9)

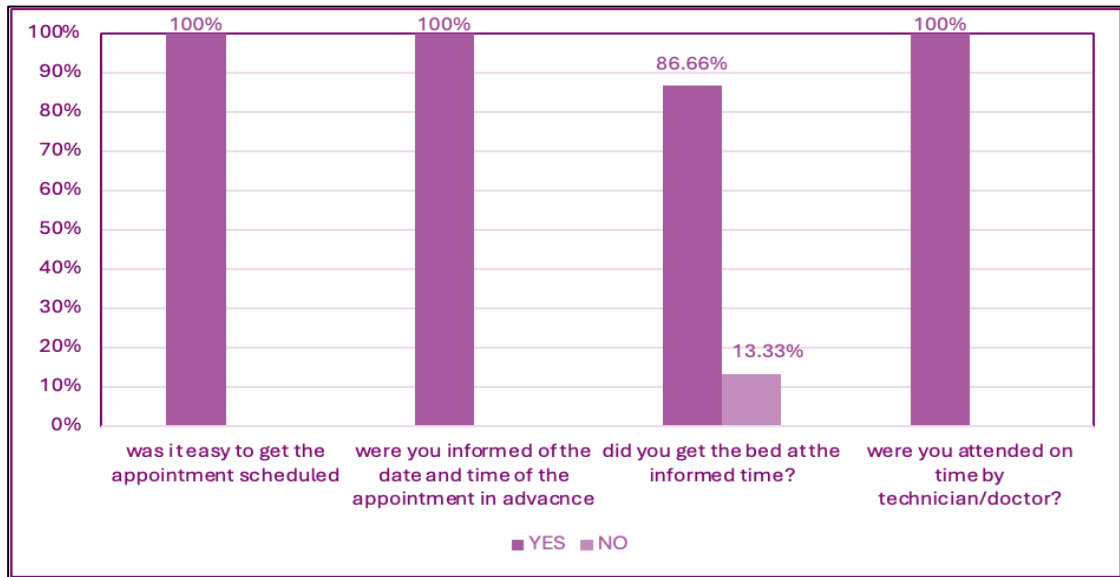
PATIENT FEEDBACK FOR THE DIALYSIS

The bar graph shows the average rating (on a scale of 5) of patient regarding various parameters of the services in the dialysis department. The highest satisfaction is seen in the billing process followed by facility cleanliness and maintenance, staff behaviour and the check in process for the dialysis. The average rating of the overall experience of patients in the dialysis department is 4.6 out of 5.



PATIENT SATISFACTION WITH CHECK IN PROCESS DURING DIALYSIS

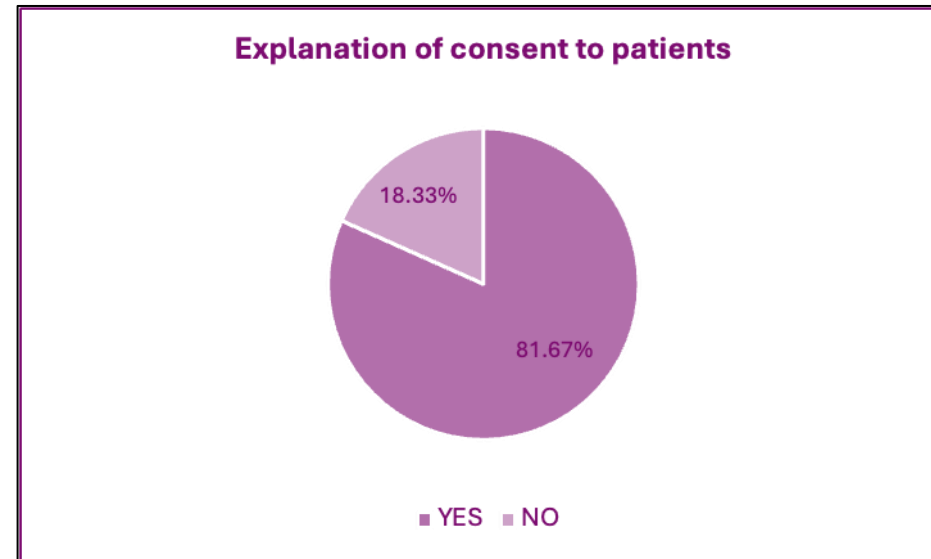
100% satisfaction was seen among the patients with the appointment scheduling and visits of doctor/staff. However, approximately (87%) of the patients got the bed on time whereas (13%) had to wait for longer to get the bed



RESULTS (8/9)

EXPLANATION OF CONSENT FORM TO PATIENTS

Almost 82% of the patients reported that the consent form was explained to them before the commencement of the dialysis whereas 18% reported of consent not being explained. Majority amongst these patients are old patients and are on regular dialysis.

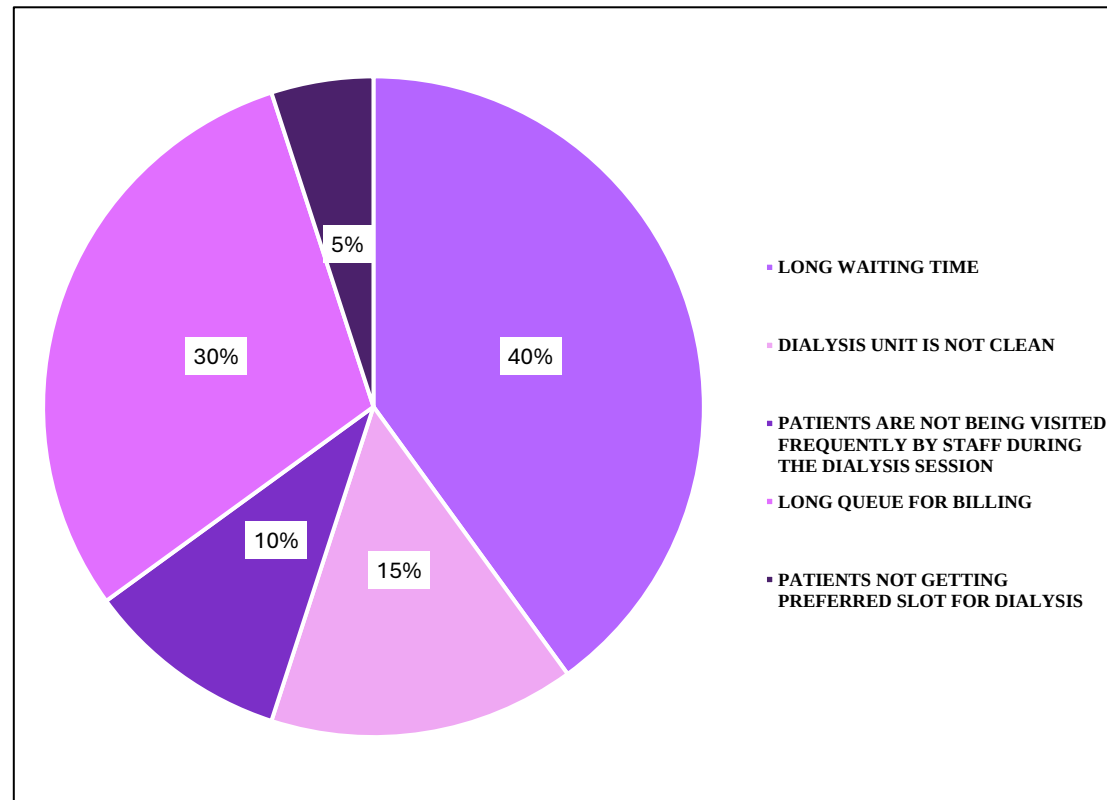


Percentage of patients reporting about the explanation of consent form

RESULTS (9/9)

COMPLAINTS REPORTED BY PATIENTS

A total of 20 complaints were reported out of the sample size of 60 patients. The patients in dialysis unit presented with varied problems when asked about the feedback of facility. The maximum number of complaints(40%) constituted of longer waiting times to get a bed for their scheduled dialysis session and only (5%) of the total complaints accounted for not getting the preferred slots for the dialysis. Thirty percent complaints constituted for longer queue while the billing while 10% comprised of lack of enough visit by staff during the four-hour dialysis process. Only 15% complaints were regarding the hygiene and cleanliness in dialysis daycare unit.



CONCLUSION



AREAS OF EXCELLENCE

01

Adherence to important hygiene measures (hand hygiene, aseptic procedures)

02

Stringent equipment cleaning methods.

03

High Patient satisfaction, particularly in terms of cleanliness and staff behaviour



AREAS OF IMPROVEMENT

01

Occasional missing of hand hygiene after touching the patient's surroundings

02

Varied compliance with face mask use

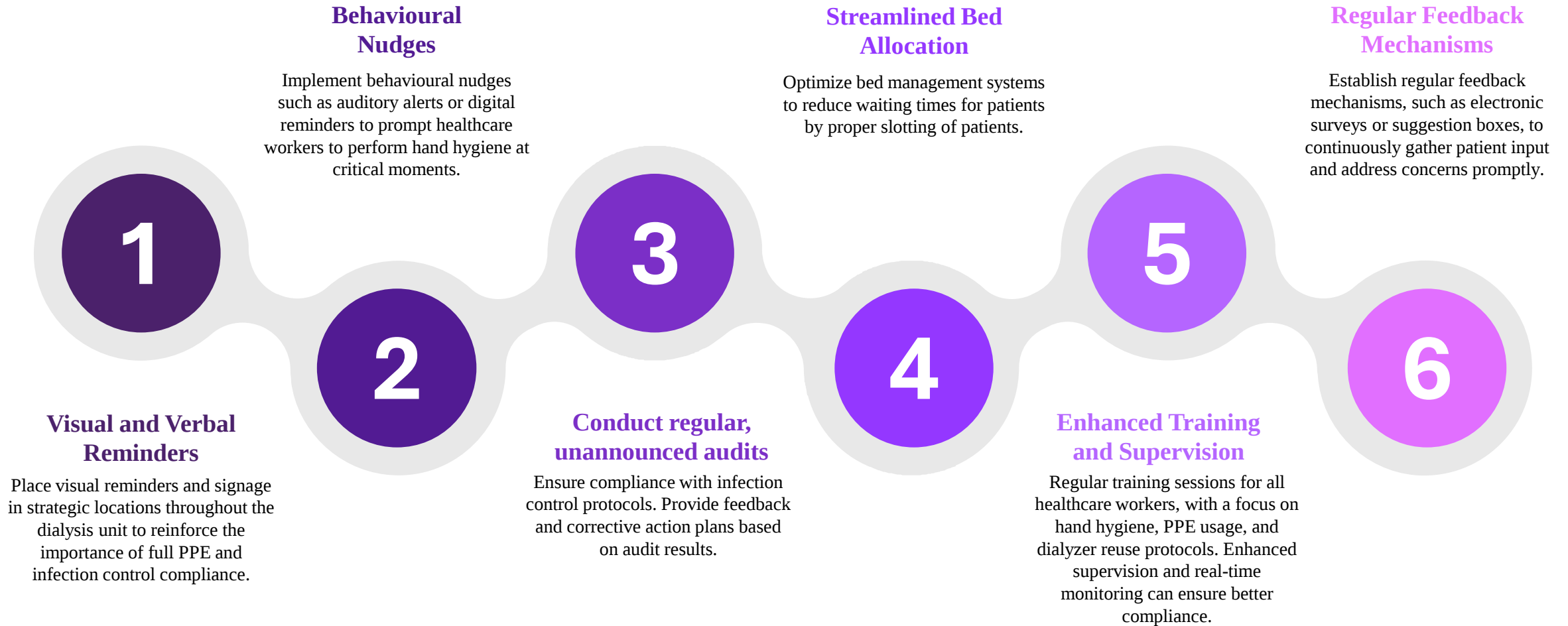
03

Concerns regarding operational delays



“To summarise, while the dialysis unit adheres to many procedures and has high patient satisfaction, targeted improvements in procedural consistency, PPE compliance, and operational efficiency could improve service quality and patient outcomes even more.”

RECOMMENDATIONS



THANK YOU