



QUALITY ASSURANCE PROJECT : IMPROVING ENVIRONMENTAL CLEANING QUALITY OF PATIENT ZONE AT WARD 1 HOSPITAL KAJANG

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1. SELECTION OF OPPORTUNITIES FOR IMPROVEMENT

1.1 INTRODUCTION

Environmental cleaning is a key component of standard precautions, in the healthcare environment. The role of environmental cleaning is to reduce the number of infectious agents that may be present on surfaces and minimize the risk of transfer of microorganisms from one person or object to another, thereby helps reducing healthcare associated infection in healthcare settings.

1.2 SMART CRITERIA

- S** • BIG ISSUES : only 50% of discharge bed being cleaned everyday and significant correlation between poor environment cleaning with increase hospital acquired infection (HAI), which result in prolong stay, financial burden, and death.
- M** • Data on environmental cleaning can be measured (using check-list)
- A** • Checklist and daily monitoring of number of discharge patient with number of patient area being clean can be monitored
- R** • Require active involvement of Radicare members , staff nurses and Infection Control Team
- T** • Can be done within 1 year

1.3 OPPORTUNITY STATEMENT

Poor environmental cleaning quality in patient care area after a patient's discharge in ward 1 Hospital Kajang might increase risk of microorganism transmission especially MDRO to next patient occupying the bed. Multiple factors including manpower, system and work process weakness, lack of awareness, communication issue and current working culture contributed to this problem. Our aim of this study is to reduce risk of microorganisms transmission in Ward 1 Hospital Kajang.

1.4 PROCESS OF CARE



2. KEY MEASURES FOR IMPROVEMENT

2.1 OBJECTIVE

This project aims to improve number of patient care area cleaned for $\geq 75\%$

2.2 INDICATIONS AND STANDARDS INDICATOR=

Number of bed cleaned which fulfill the criteria per day $\times 100$
STANDARD >75%

Total number of patients discharge per day

2.3 TERMS AND DEFINITIONS

Environmental cleaning

Cleaning and disinfection of environmental surfaces (e.g., bed rails, mattresses, call buttons, chairs) and surfaces of noncritical patient care equipment

Patient Zone

The narrow area around the patient that is dedicated to that patient wherever the patient receives care.

Discharge

Formal release of a hospitalized individual due to conclusion of the hospitalization stay, either by death, return home, or transfer to another institution.



As there were no other International standard recommendation for bed cleaning, the decision to set the standard was guided by National Hand Hygiene compliance rate which was set as $\geq 75\%$

3. ANALYSIS AND INTERPRETATION

Verification study done in year 2023 among 156 discharge beds in general ward Hospital Kajang , found out that only 41% of discharged bed cleaned appropriately (n=64). Shortfall includes incorrect dilution of disinfectant , not following standard of manual cleaning method and lack of supervision and feedbacks.

No.	Process	Criteria	Standard	Pre remedial
1.	Dilute Detergent & Disinfectant Solution	1. Correct use of detergent 2. Correct dilution of disinfectant	100% 100%	100% 53%
2.	Manual Cleaning & Rinse	1. Remove visible dirt with detergent. 2. Using 'S' pattern cleaning method from clean area to dirty area	100% 100%	70% 65%
3.	Inspection by Nurse or ward manager	1. All area at patient zone visibly cleaned 1. Cleaned area being label and tag ready for next use	100% 100%	70% 0%

4. STRATEGY FOR CHANGES

Process	Shortfall	Strategy / Intervention	Time frame
Dilute disinfectant	1. Ratio of water and disinfectant being use	1. Provision of measuring cup 2. Dilution table as visual aid	Oct 23 – Mac 24 Oct 23 – Mac 24
Manual cleaning and rinse	1. Not using 'S' pattern cleaning method. 2. Not following sequence from dirty area to clean area	1. Series of practical training sessions to cleaners	Oct 23 – Mac 24
Inspection by nurse	1. Lack of supervision	1. Bed clean tagging 2. Visual inspection of the area by fluorescent markers and UV light	Oct 23 – Mac 24 Oct 23 – Mac 24



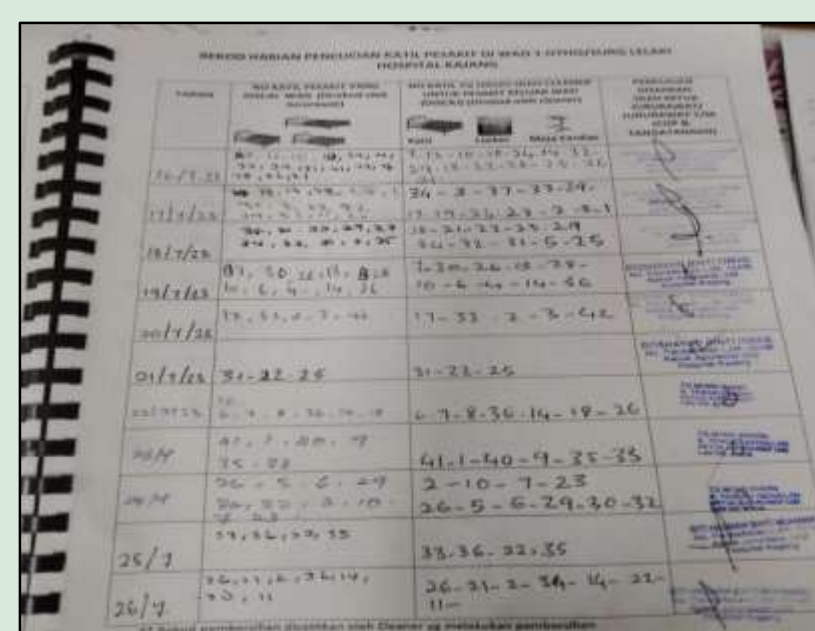
Training to Radicare staff



Dilution table as visual aid



Buku pemantauan pembersihan ruang pesakit selepas pesakit discaj



Bed tagging (cycle 1)



Bed tagging (cycle 2)



Visual inspection using fluorescent markers



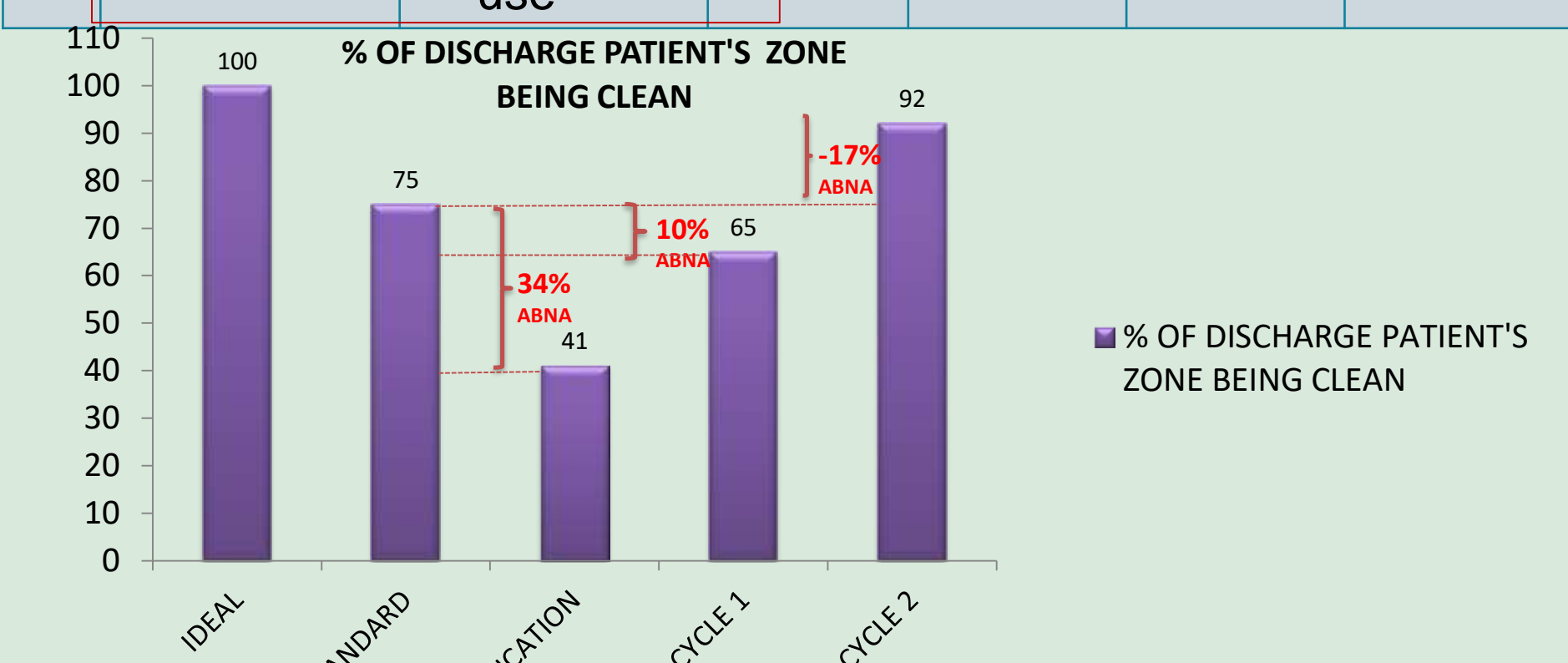
UV light & glo Germ powder kit for visual inspection

5. EFFECT OF CHANGES

Post interventions, identified patient zone area was assessed using fluorescent gel to ensure that all areas being cleaned using a modified healthcare environment cleaning audit checklist. Found out that 92% of the samples had good environmental cleaning quality.

No.	Process	Criteria	Standard	Pre remedial	Post remedial (cycle 1)	Post remedial (cycle 2)
1.	Dilute Detergent & Disinfectant Solution	1. Correct use of detergent 2. Correct dilution of disinfectant	100% 100%	100% 53%	100% 80%	100% 100%
2.	Manual Cleaning & Rinse	1. Remove visible dirt with detergent 2. Using 'S' pattern cleaning method from clean area to dirty area	100% 100%	62.5% 69%	73% 80%	92% 98%
3.	Inspection by Nurse or ward manager	1. All area at patient zone visibly cleaned 1. Cleaned area being label and tag ready for next use	100% 100%	70% 0%	73% 60%	92% 90%

5.1 GRAPH FOR ABNA
ACHIEVABLE BENEFIT NOT ACHIEVED



5.2 CONCLUSION

Post interventions, rate of discharge patient's zone being cleaned increased from 41% to 65% during first cycle and subsequently 92%. The increased in the quality of discharged patient's zone being clean has reduce risk of transfer of microorganisms from one person or object to another by contaminated environment, increase patients satisfaction subsequently improve quality of patient care.



6. THE NEXT STEP

- We aim to adapt these strategies to other wards.
- Regular training and provisions of privileging to the cleaners who complete the cleansing training successfully.
- Routine monitoring and auditing to ensure project sustainability
- Patient Involvement: Educate patients and their families about importance of environmental hygiene and encourage them to report any concern regarding cleanliness.

3. PROCESS OF GATHERING INFORMATION

3.1 Study Design :

Pre and Post Interventional Study

3.2 Duration:

August 2023 – June 2024

Data collections period :

Verification Study :

1st August 2023 – 31st August 2023

First cycle : Sept 2023 – Nov 2023

Second Cycle : Dec 2023 – Feb 2024

3.3 Sampling :

Number of patient's discharge X Duration of study

3.4 Inclusion criteria :

All patients discharged from Ward 1

3.5 Data Collection Tools :

Buku rekod harian pencucian katil di Wad 1, Discharge patients zone cleaning assessment form, Healthcare Environment Cleaning Visual Assessment Form