

Innovative strategies and effects in CRE infection control

HN Jung¹, JH Yun¹, JH Yeon¹, SM Lee²

1. Infection Control Center, National Health Insurance Service Ilsan Hospital, Goyang, Republic of Korea
2. Internal medicine, National Health Insurance Service Ilsan Hospital, Goyang, Republic of Korea

Introduction

Number of CRE Patient Increase

Increase mortality rate

Rising medical costs

Increase CRE outbreak

Increase patient length of stay

“Need for effective CRE patient management in hospital”

Prevent CRE transmission

Efficient operation of isolation room

Environmental management

Strengthen CRE management

Indicators and Goals

✓ The CRE incidence rate per 1,000 patient-days
(Goal: 27.5% reduction)

✓ ATP* test pass rate for high-touch surface in CRE isolation room
(Goal: 70% or higher)

*ATP(Adenosine triphosphate): Evaluation methods for environmental surface cleaning and disinfection

Problem Analysis

1. Problems of the existing system

Increase in CRE patients

Number of isolated patients, length of stay increase

Increase in single isolation rooms usage

Shortage of isolation rooms

2. Preliminary Status

✓ The CRE incidence rate per 1,000 patient-days

0.17 0.45 0.61 0.69
2019 2020 2022 First quarter of 2023

✓ ATP test pass rate for high-touch surface in CRE isolation room

Pass rate 38.7%

ward 37% Intensive Care Unit 41.5%

Call bell

Side rail

Door handle

Faucet

Side table

Drawer handle

3. Cause-effect Diagram

System

Environment

Provider

Patient

CRE Incidence

Strategy and Activities

1. A cohort isolation ward was designated for KPC-CPE

① NG-Test CARBA 5 was introduced : Reporting time 3 weeks→1day

② ‘Protective Gear Wearing Zone’ sign was attached.

CPE genotypes within the hospital.

KPC type 98.1%

KPC OXA NDM

보호구 착용 ZONE

Protective Gear Wearing zone

2. Enhance environmental management

① Environmental management checklist : Enhanced visualization

② Practical training on donning and doffing protective gear

격리병실 환경관리 순서

격리병실 환경관리 순서

격리병실 환경관리 순서

격리병실 환경관리 순서

3. Sharing CRE information with staff

① A stand-type CRE information sign was provided.

② A cautionary e-mail was sent to the nurse&physician when two CRE patients occurred in the same department.

Result

✓ The CRE incidence rate per 1,000 patient-days

- Due to external inflows, the incidence rate of CRE has increased.

Activities

Failure to achieved goal

0.4 0.8 1.2

2023, 1Q 2Q 3Q 4Q

✓ ATP test pass rate for high-touch surface in CRE isolation room

Goal achieved!

80% 60% 40% 20%

75.3% 76% 74.5%

38.7% 37% 41.5%

Total pass rate Ward ICU

Before After Goal

Conclusion & Suggestions

✓ In order to manage the influx of external CRE patients, infection control linked to the local community is necessary.

✓ It will be necessary to improve awareness of infection control through periodic education, monitoring, and feedback on contact-precautions and environmental management.

Istanbul2024
Health for People and Planet
Building Bridges to a Sustainable Future