NURSES ROLE IN MANAGING COMMUNICABLE DISEASE

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INTRODUCTION

* Communicable diseases are one of the most common causes of death.
* Prevention and control of communicable diseases are recognized as essential responsibilities of the healthcare staff.
* Professional nurses were first introduced into educational setting in the late 1800’s for prevention and control the spread of communicable disease.
INTRODUCTION (2)

To prevent and control the spread of communicable disease must continue on-going bases.
Milestone of Infection Control

- 1840s- Sammelweis – Hazard of Hospital
- 1940s- Group A *Streptococci*
- 1950-1960’s – *Staphylococcus aureus* & Gram-negative organisms
- 1970’s – MRSA
- 1980’s — Multi-resistant Gram-negative organisms
Infection Control in Malaysia

- 1979 – Disinfection and sterilization Policy
- 1988 – Guidelines and the Control of HAI
- 1990 – HAI programme was established
- 1992 – First National Meeting on Nosocomial Infections
- Infection Disease- Notifiable 28 cases to MOH
Infectious diseases are disorders caused by organisms — such as bacteria, viruses, fungi or parasites. Many organisms live in and on our bodies. They're normally harmless or even helpful, but under certain conditions, some organisms may cause disease. Some infectious diseases can be passed from person to person.
<table>
<thead>
<tr>
<th>No.</th>
<th>Disease</th>
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<tbody>
<tr>
<td>1.</td>
<td>Cholera</td>
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<td>2.</td>
<td>Typhoid</td>
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<td>3.</td>
<td>Tuberculosis</td>
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<td>4.</td>
<td>Plague</td>
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<td>Leprosy</td>
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<td>6.</td>
<td>Tetanus</td>
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<td>Diphteria</td>
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<td>8.</td>
<td>Whooping cough</td>
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<td>9.</td>
<td>Syphilis</td>
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<td>Gonorrhoea</td>
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<td>11.</td>
<td>Chanroid</td>
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<td>12.</td>
<td>Relapsing fever</td>
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<td>13.</td>
<td>Typhus</td>
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<td>14.</td>
<td>Acute poliomyelitis</td>
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<td>15.</td>
<td>Rabies</td>
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<td>16.</td>
<td>Viral encephalitis</td>
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<td>17.</td>
<td>Dengue</td>
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<td>18.</td>
<td>Yellow fever</td>
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<td>Measles</td>
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<td>20.</td>
<td>Viral hepatitis</td>
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<td>21.</td>
<td>HIV / AIDS</td>
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<td>22.</td>
<td>Malaria</td>
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<td>23.</td>
<td>HFMD</td>
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<td>24.</td>
<td>Ebola-Marburg</td>
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<td>25.</td>
<td>Dysentery</td>
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<td>26.</td>
<td>Food poisoning</td>
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<td>27.</td>
<td>Life threatening microbial</td>
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<td>28.</td>
<td>Leptospirosis</td>
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Communicable Diseases
Management of Communicable Diseases

- An illness that is transmitted by contact with body fluids
  - directly transmitted
  - acquired from a person or vector (ticks, mosquitoes, or other animal)
- indirectly transmitted
  - by contact with contaminated objects.
Nursing Responsibilities

Assessment:
- Identify recent exposure
- Identify prodromal symptoms
  - Symptoms occur early in disease
- Locate immunization history
- Confirm history of having the disease
Nursing Responsibilities

Implementation:

1. prevent spread-isolation
2. reduce risk of cross contamination
3. prevent complications
4. provide comfort
MODE OF TRANSMISSION

- **CLOSE CONTACT**
  - Hands, dressing, contaminated Disinfectant
  - IV Catheter (Colonization)
  - Ventilators
  - Bedpans
  - Food & Fruits

- **AEROSOLS**

- **TRANSLOCATION**
Community acquired infection by principle PATHOGENS such as:

1. BACTERIA
2. VIRUSES
3. FUNGI
4. PARASITE
Infection Control Measures

- 5 main categories:
  - Isolation and treatment of infection
  - Disease Surveillance
  - Containment
  - Control usage of Antibiotic & disinfectant
  - Staff Education
Bases for control and isolation

1. Sources of infection
   - Infected patient/colonized/healthy carrier

2. Route of transmission
   - Direct/indirect

3. Susceptible host – portal of entry
   - inhalation/ingestion/inoculation
Isolation and Treatment of Infection

- Categories of Isolation:
  - Airborne isolation
  - Contact isolation
  - Droplet isolation
Preparation for isolation

- Policy
- Room structure/facilities
- Infrastructure
- Personal Protective Equipment
- Control of Visitors
- Patient mobilization/transfer
- Disinfection after discharge
Surveillance – Definition

“On-going systematic collection, analysis, and interpretation of outcome-specific data essential to the planning, implementation, and evaluation of public health practice, closely integrated with timely dissemination of these data to those who need to know for public health action”.

- outcomes – include disease, injury, and disability, as well as risk factors, vector exposure, environmental hazards, or other exposures
- data – used to prevent and control disease and injury (public health action)
Types of Surveillance

- Passive Surveillance
  - Initiated by data source
  - Data supplied to health department based on known regulation

- Active Surveillance
  - Initiated by health department
  - Usually implemented during epidemic
Laboratory-based Surveillance – List of Pathogens

1. V. cholerae
2. H. influenzae B
3. Salmonella spp
4. S. typhi/paratyphi
5. N. meningitides
6. Leptospira
Surveillance: Purpose & Uses

- Measure disease trends
- Assess the effectiveness of control and prevention measures
- Identify population or geographic areas at risk
- Allocate resources appropriately
- Formulate health policies & prevention strategies
- Sudden changes in disease occurrence
- Identify changes in host factors
Surveillance & Response Framework

Public health

Response

Data collection

Data use hemisphere

Analysis

Data generation hemisphere

Interpretation
Containment of Infection

- Good patient care practices
  - HANDWASHING
  - Care of hospital equipment
  - Infection control policies
  - Prophylaxis of health care workers
Usage of Disinfectants & Antibiotics

I. Disinfectants

- Should be used cautiously
- Abide by disinfectant guidelines

“Decomposition”

- Disinfectants are unstable
- Use fresh solutions
- NEVER “TOP UP”
Usage of Disinfectant and Antibiotic (cont’)

II Antibiotics

- Use judiciously
- Right antibiotic for right pathogens
- Problem: spread of antibiotic resistant bacterial strain
Usage of Disinfectant and Antibiotics (cont’)

- Methods to curb over usage of antibiotics:
  - Educational methods
    - Newsletters, manual and protocols
    - Restrictive methods
    - Formulary restriction
    - Pharmacy justification
    - Automatic stop policies
Usage of Disinfectants and Antibiotics (cont’)

- Resistance methods (cont’)
  - Endorsement by an ID specialist
  - Selective reporting of antibiotic sensitivity by the laboratory
  - Restriction with pharmaceutical representatives (“free sample”)
Usage of Antibiotic

NURSE Responsibilities

1. Correct Dose
2. Timing- to ensure optimal blood level
3. Duration- must have stop date
4. Checking culture result- making sure that antibiotics is sensitive
5. IV Drip- Aseptic technique in preparation to prevent blood stream Hospital Acquired Infection.
Staff Education

- Familiarization with hospital infection control policies and procedures
- On-going education, campaigns and specialized education to increase awareness of illnesses, infection risks and preventive measures
- Staff education is of UTMOST importance in infection control
Employee Health Programme

Program in which preventive strategies for infections known to be transmitted in health care settings are addressed
Employee Health Programme (cont’)

- Objectives:
  1. To improve the safety of the hospital environment
  2. To maintain the well-being of healthcare workers
  3. To contain or reduce costs resulting from absenteeism
Employee Health Programme (cont’)

- Immunization Program
  - Ensuring that staff are immuned to vaccine preventable diseases
    i) Immunization of new and currently employed staff
    ii) Continual review of immunization status
Employee Health Program (cont’)

- Sharp injuries and Post-exposure Management
  - Prompt diagnosis and management is important
  - A hospital policy on reporting and management should be made known to all staff
  - Record keeping
KEY ELEMENT FOR THE SUCCESS OF INFECTION CONTROL PROGRAM

✓ Learn the expertise and skills required for the practice of infection control in hospitals
✓ Collect data on hospitals-acquired infections in the country
✓ Press the health authorities to provide resources and deploy full-time ICNs
✓ Initiate training for IC personnel
✓ Initiate IC programmes at the local hospital level
✓ Provide vehicles for collaboration and continuing education.
“Above all, a hospital must do the patient no harm”

(Florence Nightingale)