Recommemations

• Please turn off your microphones
• The presentation will be one hour with additional time for questions
• Please send questions in writing, via Webex chat or email infectioncontrol@paho.org
• The presentation will be available on PAHO website in 48 horas at: http://www.paho.org/hq/index.php?option=com_topics&view=article&id=342&Itemid=40930&lang=en
Acknowledgement

This webinar is made possible thanks to the auspice and cooperation of the Infection Control Center (CDC), under agreement CDC-RFA-CK13-1302. “BUILDING CAPACITY AND NETWORKS TO ADDRESS EMERGING INFECTIOUS DISEASES IN THE AMERICAS”
The role of nursing in the prevention of selection and dissemination of multidrug resistant microorganisms

Prof. Dr. Maria Clara Padoveze
School of Nursing
University of Sao Paulo
Brazil
No personal conflict of interest related to the subject of this presentation

Thanks to Adriana Maria da Silva Felix and Ligia Maria Abraao to contribution in this presentation
Presentation plan

• Background information
• The importance of nurses
• The role of nurses in:
  • Preventing infection
  • Dealing with infection
  • After the infection
• Recommendations for nursing action
• Conclusions
Antimicrobial resistance (AMR) is a growing worldwide problem
  • Resistance detected in bacteria, virus, and parasites

The largest current threat to global health
  • Rates may be worse in low and middle income countries

Failing treatments cause deaths, much suffering and economic impact

Multisectoral challenge

WHO, 2015

1. Improve awareness and understanding of AMR;
2. Strengthen knowledge through surveillance and research;
3. Reduce the incidence of infection through effective sanitation, hygiene and infection prevention;
4. Optimize the use of antimicrobial agents;
5. To develop the economic case for sustainable investment that takes account of the needs of all countries and increase investment in new medicines, diagnostic tools, vaccines and other interventions.
Antimicrobials

- Essential resource to be preserved

- List of critical antimicrobials in human medicine that should be prudently used in humans and animals
  - Critically important
  - Highly important
  - Important

Why nurses are so important?

• The largest segment of the health care workforce

• Have a variety of activities and positions worldwide

• Are at the center of patient care
  • Links with multidisciplinary health team

• Can prescribe antimicrobials in some countries

The role of nursing

- Infections acquired at both community and hospitals require antimicrobial treatment and contribute to selection of resistant strains.

- Poor infection control practices in hospitals, nursing care and other settings contribute to dissemination of these strains.
The role of nursing

• Preventing infection
• Dealing with the infection
• After the infection

The role of nursing - prevention

**Prevention**
- Hospital and primary care
- **Immunization**
- Hand Hygiene
- Environmental hygiene
- Specimen collection: appropriate technique
- Early detection of signs and symptoms

**Education**
- Primary care nurses, health visitors, school nurses
- Patient and family education
- Education of general public
  - Hand hygiene
  - Food hygiene
  - Water sanitation
  - Safe sex practices
  - Resistance awareness
  - Overuse and misuse of antimicrobials
The role of nursing - prevention

**Prevention**
- Patient safety issue
- General infection prevention measures
- Isolation precautions (when applicable)
  - Preventing dissemination

**Education**
- Patient and family members about the reasons for isolation
  - The use of PPE
  - Improve the hospitalization experience of inpatient with multidrug resistant infection or colonization
- Other nurses and healthcare team
The role of nursing – infection

**Dealing with infection**
- Antimicrobial stewardship
- Antimicrobial administration
  - Timely administration
  - Correct drug, route, and duration of therapy
  - Time-out and de-escalation
- Monitoring the patient response daily (in hospital)
- Primary care: DOT
- Check for adverse events
  - Recognize true allergies for antimicrobial (ex. Penicillin)

**Education**
- Patient and family education and engagement:
  - Adherence to therapeutic course
  - Avoid self antibiotic “prescription”
  - Misuse of antibiotic (ex: viral infections)
  - Avoid the pressure to physicians to prescribe antibiotics.
  - Oral *versus* parenteral antimicrobials
Antimicrobial stewardship

“a collection of coordinated, interprofessional, focused strategies to optimize antibiotic use by ensuring that every patient receives an antibiotic only when it is clinically indicated and then receives the appropriate antibiotic, at the right dose, duration, and route of administration” (Manning, Pfeiffer and Larson, 2016)

• Goals:
  • Achieve the best clinical outcomes
  • Minimize toxicity
  • Minimize adverse events
  • Minimize the emergence of AMR strains
The role of nursing – infection

Dealing with infection

• Antimicrobial stewardship
• Antimicrobial administration
  • Timely administration
  • Correct drug, route, and duration of therapy
  • Time-out and de-escalation
• Monitoring the patient response daily (in hospital)
• Primary care: DOT
• Check for adverse events
  • Recognize true allergies for antimicrobial (ex. Penicillin)

Education

• Patient and family education and engagement:
  • Adherence to therapeutic course
  • Avoid self antibiotic “prescription”
  • Misuse of antibiotic (ex: viral infections)
  • Avoid the pressure to physicians to prescribe antibiotics.
  • Oral versus parenteral antimicrobials
The role of nursing – after infection

<table>
<thead>
<tr>
<th>After the infection</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Plan for discharge • Counseling about the network of outpatient care • Monitoring of patient response • Surveillance</td>
<td>Patient and family education • Adherence to treatment • Return if signs of recrudescence or adverse events • Reinforcement antimicrobials only when required by clinical judgement</td>
</tr>
</tbody>
</table>
Recommendation for nursing action

- Engagement the entire community of nurses to tackle antimicrobial resistance
  - Including antimicrobial stewardship
  - Recognition of role of nurses
  - Development of strategies to improve their work conditions
- Engagement of school of nurses
  - Robust education for nurses on infection prevention and antimicrobial stewardship
- Engagement of nurse’s professional associations
  - Raising nursing awareness and provoke action
  - Development of guidelines and resources for nursing practice
- Nursing research
  - Produce evidence to support nursing practice
  - Implementation science to translate the evidence into practice
  - Study the impact of nurses’ contribution to antimicrobial stewardship
Conclusions

• The community of nurses has a strong potential to leverage the global efforts against antimicrobial resistance

• Nursing education, awareness and good perception of their role are key elements to determine contribution to prevent selection and dissemination of multidrug resistant microorganisms.
References


Thank you!

padoveze@usp.br