SSI prevention strategies in Latin America

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Ministry of Health
Chile
• No conflicts of interest
• This presentation is not an official MoH presentation
What is Latin America

• Latin America = 20 countries (spanish speaking population in the USA or Canada is not included)
• Common languages: spanish & portuguese
• 626 million population
• How many hospitals?
  • Some countries have 2
  • Some have >6000
method

• Review of the web pages of the MoHs
• Literature searches for published strategies
• Interviews with colleagues from the MoHs

consideration

• It is not common that countries publish strategies as such in journals or other type of publication
  • So, if I didn’t find it, it doesn´t necessarily mean it doesn´t exist
“prevention strategies”

• **National** initiative
• Include coordinated permanent activities to prevent infections
  • Surveillance
  • Guidelines
  • Training
  • Structural aspects
  • Monitoring

  • **Active**
  • **Stratification by risk**

  • Sterilization of surgical materials
  • Antibiotic prophylaxis
  • Skin prep. → hair removal
  • Checklists
  • OR air quality, control of T°
### The checklist - Safe Surgery Saves Lives

**WHO 2008**

**LISTA DE CHEQUEO QUIRURGICO**

<table>
<thead>
<tr>
<th>Antes de la Inducción anestésica</th>
<th>Antes de la incisión</th>
<th>Antes de la salida del quirófano</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INGRESO</strong></td>
<td><strong>PAUSA</strong></td>
<td><strong>SALIDA</strong></td>
</tr>
<tr>
<td>X EL PACIENTE HA CONFIRMADO</td>
<td>X CONFIRMA LA IDENTIFICACIÓN Y FUNCIÓN DE CADA PERSONA EN EL QUIRÓFANO</td>
<td>X ENFERMERÍA CONFIRMA CON EL EQUIPO</td>
</tr>
<tr>
<td>-IDENTIDAD</td>
<td>-PAQUETE</td>
<td>-LA CIRUGÍA REALIZADA</td>
</tr>
<tr>
<td>-SITIO</td>
<td>-SITIO</td>
<td>-CONTEOS COMPLETOS DE CORTANTES, GASAS COMPRESAS (O NO SE APlica)</td>
</tr>
<tr>
<td>-PROCEDIMIENTO</td>
<td>-PROCEDIMIENTO</td>
<td>-COMO SE MARCARON LAS MUESTRAS (INCLUYENDO EL NOMBRE DEL PACIENTE)</td>
</tr>
<tr>
<td>-CONSENTIMIENTO</td>
<td></td>
<td>-EXISTIERON PROBLEMAS DE EQUIPOS QUE DEBAN SER DISCUTIDOS</td>
</tr>
<tr>
<td>X SITIO MARCADO / NO APlica</td>
<td>X EVENTOS CRÍTICOS PROBABLES</td>
<td>X EL CIRUJANO, ANESTESIOLOGO, Y ENFERMERA HACEN LAS CONSIDERACIONES PARTICULARES PARA LA RECUPERACIÓN Y MANEJO POP DEL PACIENTE</td>
</tr>
<tr>
<td>X LISTA DE CHEQUEO ANESTESICO COMPLETA: MAQUINA, MEDICACIONES, ELEMENTOS</td>
<td>X EL CIRUJANO HACE UN ANALISIS: EXISTEN DIFICULTADES ESPECÍFICAS DEL PACIENTE?</td>
<td>CONSIDERACIONES PARTICULARES: PROFILAXIS TROMBOSIS VENOSA, CUIDADOS INTERMEDIOS, ANESTESIA POSTOPERATORIA</td>
</tr>
<tr>
<td>X PULSOXÍMETRIA FUNCIONANDO EN PACIENTE</td>
<td>X INSTRUMENTACIÓN HACE UN ANALISIS: SE HA VERIFICADO LA ESTERILIDAD INCLUYENDO INDICADORES? HAY PREOCUPACIONES O PROBLEMAS CON EL EQUIPO?</td>
<td>OTRAS</td>
</tr>
<tr>
<td>X TIENE EL PACIENTE?</td>
<td>X SE HA ADMINISTRADO PROFILAXIS ANTIBIÓTICA EN LOS ÚLTIMOS 60 MINUTOS?</td>
<td>X NOMBRE / SELLO</td>
</tr>
<tr>
<td>X ALERGIA CONOCIDA?</td>
<td>X SI</td>
<td></td>
</tr>
<tr>
<td>X NO</td>
<td>X NO SE APLICA</td>
<td></td>
</tr>
<tr>
<td>X SI</td>
<td>X SI</td>
<td></td>
</tr>
<tr>
<td>X NO</td>
<td>X NO SE APLICA</td>
<td></td>
</tr>
<tr>
<td>X SI, Y HAY EQUIPO Y AYUDA DISPONIBLE</td>
<td>X ESTA DISPONIBLE LA IMAGENLOGÍA NECESITA?</td>
<td></td>
</tr>
<tr>
<td>X RIESGO DE VIA AEREA DIFICIL / BRONCOASPIRACIÓN?</td>
<td>X SI</td>
<td></td>
</tr>
<tr>
<td>X NO</td>
<td>X NO SE APLICA</td>
<td></td>
</tr>
<tr>
<td>X SI</td>
<td>X NO SE APLICA</td>
<td></td>
</tr>
<tr>
<td>X SI Y SE HAN PLANEADO ACCESO Y Y FLUIDOS ADECUADOS</td>
<td>X NOMBRE / SELLO</td>
<td></td>
</tr>
</tbody>
</table>

**Esta lista de chequeo no pretende ser exhaustiva, se recomienda que se hagan adiciones, modificaciones para traducido y adaptado de la lista de chequeo de la OMS 2008- Comité de Seguridad SCARE**

#### Sterility indicators

#### Antibiotic prophylaxis
Results

• Very diverse
• Can´t be organized and generate statistical analyses
• I will present some examples as cases
Colombia

- Surveillance of SSI
- 3255 SSI in 311824 surgeries

SSI / 100 surgeries

2006 2007 2008 2009 2010 2011 2012
0 0.2 0.4 0.6 0.8 1 1.2 1.4

- Good practice guidelines 2010
  - 4.2.1. HAIs (detect, prevent, reduce)
  - ”involve all HCWs in the implementation of pre-intra-post surgery surgical site infection prevention” such as:
    - Antibiotic prophylaxis
    - Skin antisepsis
    - Behaviour in the OR
    - Wound management
El Salvador

2010 – 2012, rate per 100 surgeries
Use as benchmark
There are rates of each of the hospitals for the period

<table>
<thead>
<tr>
<th>C section</th>
<th>apendectomy</th>
<th>hernias</th>
<th>osteosinthesis</th>
<th>colecistectomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.4</td>
<td>10.7</td>
<td>7.0</td>
<td>8.0</td>
<td>7.8</td>
</tr>
</tbody>
</table>

Ministerio de Salud
Viceministerio de políticas de salud
Dirección Vigilancia Sanitaria

Boletín Epidemiológico
Semana 13 (del 29 de marzo al 4 de abril 2015)
El Salvador

Regulation for IPC programs - 2006

- Sterilization
- Skin preparation
- Hair removal
- OR environment conditions
- Indicates to comply with the medical prescription of anti-infective prophylaxis
Mexico

NORMA Oficial Mexicana NOM-026-SSA2-1998, Para la vigilancia epidemiológica, prevención y control de las infecciones nosocomiales.

- National regulation
- Detailed surveillance concepts
- Organization of IPC programs at all levels of health care institutions and systems
- Oversight and monitoring of IPC aspects
Brazil

• Recomendations
  • Criteria for defining HAIs including SSIs for surveillance

Some recommendations:
• Built and environmental aspects of the ORs
• Oversight of surgeons that are being trained
• Hair removal of the surgical site and skin preparation
• Anti-bioprophylaxis + monitoring compliance
• Standard precautions to be used in OR
• Normothermia
• Control of glicemia
• Use of checklist
• Sterilization of surgical materials
• Local surveillance
Brazil

• Surveillance
  • There isn’t a national system of surveillance for SSI
  • No systematic data collection of SSIs
  • No information on how many hospitals have SSI surveillance

  • Many local studies of single or groups of hospitals
  • Trend to use CDCs methods

• Compliance with the recommendations = no information found
Case Series Describing an Outbreak of Highly Resistant Vancomycin Staphylococcus aureus (Possible VISA/VRSA) Infections in Orthopedic Related Procedures in Guatemala

Suresh J. Antony*
Cuba

One hospital
654 patients
2004

- The author mentions
  - Rates higher than past surveys
  - Compares hospital with other hospitals in La Habana

Rates by type of surgery

- clean
- clean contam
- contaminated
- dirty
• Analysis of risk. Authors attribute certain factors as the risk factors involved:
  • Environment / OpRoom air
  • Poor procedure for shaving of the surgical site
  • Inadequate atb prophylaxis
Cuba

- Has a document with the HAIs program - 1999
  - Organization of the program at every level
  - Active surveillance of infections
  - Establishes the requirement of the prevention of several infections including SSI
  - Occupational health issues
  - Others

- No national data of SSI was found
Bolivia

No document with national strategies were found

Some local research with data of single hospitals or groups of hospitals

Proposed use of the checklist

No national data of SSI was found

### TABLE 1

**CASE MIX AND PROCEDURE-SPECIFIC SURGICAL-SITE INFECTION RATES IN A GENERAL SURGICAL WARD IN SANTA CRUZ, BOLIVIA, 1999**

<table>
<thead>
<tr>
<th>Intervention Type</th>
<th>Frequency</th>
<th>SSI Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. (%)</td>
<td></td>
</tr>
<tr>
<td>Cholecystectomy</td>
<td>193 (51.3)</td>
<td>15.0</td>
</tr>
<tr>
<td>Hernia</td>
<td>69 (18.4)</td>
<td>5.8</td>
</tr>
<tr>
<td>Appendectomy</td>
<td>59 (15.7)</td>
<td>8.5</td>
</tr>
<tr>
<td>Thyroidectomy</td>
<td>14 (3.7)</td>
<td>7.1</td>
</tr>
<tr>
<td>Minor surgery</td>
<td>11 (2.9)</td>
<td>18.2</td>
</tr>
<tr>
<td>Small bowel surgery</td>
<td>8 (2.1)</td>
<td>12.5</td>
</tr>
<tr>
<td>Colon surgery</td>
<td>4 (1.1)</td>
<td>50.0</td>
</tr>
<tr>
<td>Other abdominal surgery</td>
<td>9 (2.4)</td>
<td>11.1</td>
</tr>
<tr>
<td>Gynecology–obstetrics</td>
<td>5 (1.3)</td>
<td>0</td>
</tr>
<tr>
<td>Orthopedic surgery</td>
<td>4 (1.1)</td>
<td>0</td>
</tr>
<tr>
<td>All</td>
<td>376 (100)</td>
<td>12.0</td>
</tr>
</tbody>
</table>

SSI = surgical-site infection.
Chile

- National IPC program
- Surveillance of SSI
  - Only some surgical procedures
- Limited to the public sector
  - Around 80% of hospital beds and 50% of healthcare facilities
- Prevention is regulated
- Partial data on compliance is available
surveillance

IHOp de colecistectomía
1996 - 2016

IHOp de cesárea 1996 - 2016

IHOp de cirugía de prótesis de cadera 1996 – 2016

IHOp de hernia inguinal
1996 - 2016
Implementation of SSI prevention practices in Chile 1990 – 1998 % public hospitals with ≥100 beds

Strategy: guidelines, training, provide access to clippers, teach how to use them, monitor compliance, document progress

% hospitals that have the guideline and some implementation

Survey documents existence of written local instructions

National recommendations and regulations issued

Rates by surgeon hasn’t been regulated
Elimination of the practice of shaving (using a razor or blade to eliminate hair from the surgical site) the surgical site previous to surgery Chile % public hospitals with ≥100 beds

Survey documents existence of written local instructions
Compliance with the SSI prevention practices, 54 medium/high complexity of care hospitals – Chile 2015 to 2017

% hospitals that comply

ATM prophylaxis  Surgical site skin prep  Sterilization
Compliance with the SSI prevention practices, 89 hospitals – Chile 2015 to 2017

% hospitals that comply

Complexity of care

- high
- median
- low

ATM prophylaxis  Surgical site skin prep  Sterilization
**Some causes of noncompliance with the SSI prevention practices, 89 hospitals – Chile 2015 to 2017**

<table>
<thead>
<tr>
<th>practice</th>
<th>Causes of non compliance</th>
</tr>
</thead>
</table>
| ATM prophylaxis                 | • No measurement of the timing of the use  
|                                 | • Antimicrobials of choice not standardized |
| Skin preparation                | • Time from using to incision not documented  
|                                 | • Antiseptic not standardized            |
| Sterilization of surgical       | • Maintenance of equipment not documented  
| instruments                      | • sterilization services are not centralized* |

*note: the current accreditation system makes it mandatory to have every process under the same facilities and coordinator. This will change with a new norm.*
Chile regulation

- Replaces all existing guidelines on the matter
- Includes
- Complements the Norm 124 on IPC programs
- Lists some mandatory activities

Subjects regulated:
- Built and environmental aspects of the ORs
- Oversight of surgeons that are being trained
- Hair removal of the surgical site and skin preparation
- Antibio prophylaxis + monitoring compliance
- Standard precautions to be used in OR
- Normothermia
- Surveillance
- Sterilization of surgical materials
Muy agradecidos de contar con nuestra Presidenta Michelle Bachelet. En este VII Encuentro Nacional de Calidad @mbachelet @SuperDeSalud
Evaluación de la infección hospitalaria en siete países latinoamericanos
Hospital Infection in Seven Countries of Latin America Rev Panam Infectol 2008;10 (4 Supl 1):S112-122

- 67 hospitals
- survey using the Rapid Assessment Tool

<table>
<thead>
<tr>
<th>practice</th>
<th>%</th>
<th>comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>sterilization</td>
<td>70%</td>
<td>Used only accepted methods</td>
</tr>
<tr>
<td>Shaving with razors / blades of the surgical site</td>
<td>67%</td>
<td>Routinely removed hair from the surgical site with shaving</td>
</tr>
<tr>
<td>Local guidelines por IPC</td>
<td>33%</td>
<td>Have local guidelines</td>
</tr>
<tr>
<td>compliance</td>
<td>12%</td>
<td>Evaluated compliance</td>
</tr>
</tbody>
</table>
Conclusions

1. Difficult to identify national strategies
   • No national IPC program, no access to documents in the web
   • Many initiatives are under “patient safety” policies and actions
     • the surgical check list

2. Surveillance is present in some countries
   • National system, stratified by some risk criteria
     • Rates are high
   • National Surveillance may be under the epidemiology departments, not linked with the intervention program
Conclusions

3. Research from the mid 2000s show
   • Major noncompliance of sterilization procedures
   • Lack of national guidelines for preventing SSI
     • Skin preparation
     • Antibiotic prophylaxis
overall

• Strategies, when they are present*, are
  • Surveillance
    • With attempts to stratify by risk
    • Often unlinked with the departments in charge of the interventions
  • Prevention
    • Use of the Safe Surgery Checklist
    • Many are recommendations, few are truly regulatory
    • Some local clinical guidelines
  • Assessment of compliance
    • Not too often
    • Not in depth

*few countries have established national strategies and interventions