Control of scabies outbreaks in an Italian hospital: an information-centered management strategy

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Summary

• A brief introduction on scabies
• Description of an hospital outbreak
• Design of a strategy based on information
• Results
• Conclusions
1. Background

• Scabies is a dermatologic infestation caused by the *Sarcoptes scabiei* mite

• The worldwide prevalence has been estimated at approximately 300 million cases a year

• In industrialized countries: small epidemics – families, schools, prisons, long-term healthcare facilities, hospitals
Critical issues in hospital outbreaks

• Healthcare workers (HCWs) are often the first to be diagnosed with the infection

• Atypical clinical presentation: unusual distribution of lesions due to handwashing; no lesions on the wrists or fingers

• Being at risk of infection can have a negative effect on the quality of assistance

• Scabies is perceived by the “general” population as associated with low hygiene levels: problem for an effective communication
• Incidence in Lombardy:
  – In 2011: 11 cases /100,000
  – In 2012: 9/100,000

• In the province of Como:
  – In 2011: 7/100,000
  – In 2012: 9/100,000
The setting

• Hospital with 600 beds
• 14 departments and 31 divisions
• Built less than 5 years ago
• Approximately 26,000 admissions a year
Health parties involved

• In Italy, all cases of scabies must be reported directly by the clinician to the local health authority (ASL)

• Direct update of the centralized regional infectious diseases database

• Joint epidemiologic task force:
  – Hospital management
  – ASL
2. The outbreak

- Twelve cases in 3 months
- Four wards involved
- Forty-three contacts received prophylaxis
Case & Contact definitions

- Classic scabies
- Atypical scabies
- Crusted (Norwegian) scabies: contagious through the environment
- Close contact: “hands-on” contact (at least 10-15 minutes)
  - HCWs are considered close contacts when having assisted a patient with scabies
- Indirect contact: all patients and HCWs in the same ward of a case
  - Ideal target for an information campaign (risk of exposition, risk of remaining undetected)
Reconstruction of the chain of infection
3. Information campaign

- Aimed at the HCWs and all people who had been in contact with the hospital:
  - voluntary workers
  - students
  - patients and their families
  - family doctors

- Both verbal and written information were provided

- An information leaflet was distributed to all patients on the wards involved

- Family doctors of patients who had already been sent home were informed
• Regular monthly (and on-demand) meetings for HCWs
  – list of all HCWs and patients who could have had contacts with the cases
  – given detailed information about:
    – preventive measures to be adopted in wards
    – routes of infection
    – symptoms of atypical presentation
    – home sterilization and sanitization

• HCWs on leave were provided with all updated information on their return to work

• Reports were sent by e-mail if away from work for more than a week

• All members of the hospital staff were contacted
## Information and training strategies

<table>
<thead>
<tr>
<th>Month</th>
<th>Meetings</th>
<th>Wards informed</th>
<th>A &amp; E informed</th>
<th>Family doctor informed</th>
<th>Seen by dermatologist</th>
</tr>
</thead>
<tbody>
<tr>
<td>September</td>
<td>1</td>
<td>1</td>
<td>No</td>
<td>320</td>
<td>9</td>
</tr>
<tr>
<td>October</td>
<td>2</td>
<td>3</td>
<td>Yes</td>
<td>120</td>
<td>2</td>
</tr>
<tr>
<td>November</td>
<td>2</td>
<td>9 (wards on the same floor)</td>
<td>Yes</td>
<td>100</td>
<td>2</td>
</tr>
<tr>
<td>December</td>
<td>1</td>
<td>Whole hospital</td>
<td>Yes</td>
<td>-</td>
<td>5 (+ 3 students)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>6</td>
<td>All</td>
<td>-</td>
<td>540</td>
<td>21</td>
</tr>
</tbody>
</table>

3/06/2015
• The ward matrons oversaw the implementation of preventive measures and the immediate reporting of new cases
• Nursing staff of the A&E Unit was alerted to take precautionary measures
• Operational guidelines were prepared and distributed
  – keep suspected cases in isolation rooms
  – transfer in the Infectious Diseases Unit
  – hygiene procedures for management of suspected cases of scabies
• Involvement of the cleaning and patient transport services (outsourced)
# Prophylaxis management over time

<table>
<thead>
<tr>
<th>Month of diagnosis</th>
<th>Cases</th>
<th>Close contacts (prophylaxis)</th>
<th>Indirect contacts (no prophylaxis)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Health workers</td>
<td>Patients</td>
<td>Family members</td>
</tr>
<tr>
<td>September</td>
<td>2</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>October</td>
<td>1</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>November</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>December</td>
<td>1</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>
Take home messages

• Epidemics of scabies have high costs:
  – Economically
  – In terms of the prestige of the hospitals

• An information-centered strategy can replace mass prophylaxis to deal with scabies epidemics:
  – Less costs (prophylactic drugs)
  – Less adverse effects

• However:
  – Support from all the units involved is needed
  – A leading team is required (hospital management plus public health authorities)
• Hospitals should keep a high index of suspicion for cases of scabies crustosa especially:
  – in patients with an impaired immune system with severe eczematous lesions, immunosuppressive therapy
  – in A&E units
• All cases must be notified as soon as possible
• HCWs need specific training and a periodic refresh on low prevalence diseases