Important regulatory steps being taken in Cambodia to phase out oral artemisinin-based monotherapies

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Va Sokea
Vice Chief of Essential Drug Bureau, Department of Drugs and Food, Ministry of Health,
Cambodia, vasokea168@gmail.com
Cambodia – red dot

Cambodia location

Common Oral Artemisin-based Monotherapies

Important regulatory steps being taken (and results) in phasing out oral artemisinin-based monotherapies in Cambodia and result

Summary

General Geographic information:

1- # of Population in 2009 = 13,395,682 Millions

2- Land is 181,035 square kilometers

3- Life expectancy:
   Female = 64.3 years,
   Male = 60.5 years
Common Oral artemisinin-based monotherapies

- Artesunate 50mg Tablet
- Artemether 50mg Tablet
- Dihydroartemisinin 60mg Tablet
- In a variety of brands!
Important regulatory steps being taken (and results) in phasing out oral artemisinin-based monotherapies in Cambodia

- **Three-fold:**
  - **Regulatory control and enforcement** *(main focus of this presentation)*
  - **Training and social marketing interventions** *(a mentioned given in this presentation)*
  - **Programatic actions** – the Containment Project by the National Malaria Program supported by WHO and other partners *(beyond the scope of this presentations)*
Withdrawal of market authorization for all Oral Artemisinin-based monotherapies (March 2009)
Widespread dissemination of the ban (meeting with suppliers, posters + leaflets)
Drug inspectors are now empowered – promoted to status of Justice Police (confiscation, fines, prosecution)
and more
(2) Regular inspection of drug outlets

- The departments of Customs, Drugs and Food and Justice Police are enforcing the ban
  - confiscate/remove all oral artemisinin-based monotherapies from private sector drug outlets
  - arrange their destruction

(Pictures shows some of the Drug Inspectors/Justice Police in Pailin and some other locations)
Regular inspection of drug outlets

Justice Police in zone 1 and 2 inspecting drug outlets for artemisinin monotherapy, fake and substandard drugs
(3) Ban on the importation and sale of products from 4 “Ghost Companies”
(4) Closure of unlicensed drug outlets

- By MoH order has resulted into:
  - Drastic decline in the number of unlicensed drug outlets – believed to be a major sources of:
    - Oral artemisinin-based monotherapies
    - Counterfeit and substandard anti-malaria and other medicines
  - Between 2001 and 2010 - 95% of unlicensed drug outlets have been closed by the government order, implemented by Drug Inspectors /Justice Police
  - Intense closure occurred during a period of 5 months in 2009/2010 when by April 2010 65% of the unlicensed outlets were closed.

<table>
<thead>
<tr>
<th>Type</th>
<th>2001</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Import-Export Company</td>
<td>140</td>
<td>146</td>
<td>153</td>
<td>171</td>
<td></td>
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<tr>
<td>Pharmacy</td>
<td>343</td>
<td>462</td>
<td>519</td>
<td>566</td>
<td>657</td>
</tr>
<tr>
<td>Depot A</td>
<td>165</td>
<td>132</td>
<td>126</td>
<td>127</td>
<td>117</td>
</tr>
<tr>
<td>Depot B</td>
<td>384</td>
<td>621</td>
<td>744</td>
<td>797</td>
<td>745</td>
</tr>
<tr>
<td>Unlicensed drug outlets</td>
<td>2,794</td>
<td>2,025</td>
<td>1,420</td>
<td>1,111</td>
<td>143</td>
</tr>
</tbody>
</table>

Source: MoH/DF
Unlicensed drug stores – being closed

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTs 1st line</td>
<td>24.50%</td>
</tr>
<tr>
<td>Other ACTs</td>
<td>56.90%</td>
</tr>
<tr>
<td>Chloroquine*</td>
<td>9.50%</td>
</tr>
<tr>
<td>Artesunate Monotherapy</td>
<td>8.20%</td>
</tr>
<tr>
<td>SP</td>
<td>0.90%</td>
</tr>
<tr>
<td>Quinine</td>
<td>0.10%</td>
</tr>
</tbody>
</table>

Source: Adapted – ACTWatch 2009 Cambodia baseline report
(6) Decline availability

Figure 1. Availability of Antimalarials by Outlet Type

Source: Adapted – ACTWatch 2009 Cambodia baseline report
(7) Encouraging recent reports (October 2010)

- by drug inspectors and judicial police indicates that:
  - no imports/permits for oral artemisinin-based monotherapies being issued
  - absence of oral artemisinin-based monotherapies in 12 malaria endemic provinces
  - drug registration database has no oral artemisinin-based monotherapies – and no new registrations are being issued

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Strength</th>
<th>Dosage Form</th>
<th>Brand name</th>
<th>Manufacturer</th>
<th>Country of Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artemisinin/Piperaquine phosphate</td>
<td>125mg/750mg</td>
<td>Tablet</td>
<td>Artequick</td>
<td>Artepharm</td>
<td>China</td>
</tr>
<tr>
<td>Artesunate/Mefloquine</td>
<td>50mg/250mg</td>
<td>Tablet</td>
<td>Malarine for children aged 6 to 13 years</td>
<td>Mepha</td>
<td>Switzerland</td>
</tr>
<tr>
<td>Artesunate/Mefloquine</td>
<td>200mg/250mg</td>
<td>Tablet</td>
<td>Malarine for adults</td>
<td>Mepha</td>
<td>Switzerland</td>
</tr>
<tr>
<td>Dihydroartemisinin/</td>
<td>40mg/320mg</td>
<td>Tablet</td>
<td>Artekin</td>
<td>Holleykin</td>
<td>China</td>
</tr>
<tr>
<td>Piperaquine phosphate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dihydroartemisinin/</td>
<td>40mg/320mg</td>
<td>Tablet</td>
<td>Duo-cotecxin</td>
<td>Zhejiang Holley Nanhu Pharm</td>
<td>China</td>
</tr>
<tr>
<td>Piperaquine phosphate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: ACTWatch 2009 Cambodia baseline report
Earlier studies have indicated higher rates:
- WHO/MoH 2001 – 13%
- MSH 2001 – 10%
- WHO/MoH 2004 – 21%

Overall we are observing a steady decline in c/s medicines which may be attributed to:
- Global anti-counterfeiting operations e.g. Jupiter (1&2) and Storm (1&2) in South East Asia
- On-going post-marketing surveillance – sampling and testing programs; and
- the overall strengthening of regulatory capacity and enforcement of drug law in the country
(9) Seizures

Seizure of 19 tons of counterfeit medicines

Included 29 different products

2 persons were arrested in Phnom Penh, the consignment has long been destroyed and culprits prosecuted.
Arrested men (on left)
Sealed warehouse where counterfeit medicines were found.
Summary (1)

- Cambodia is serious on taking regulatory measures to removal oral artemisinin-based monotherapies in the market
- We have seen in this presentation:
  - oral artemisinin-based monotherapies that were common in the country
  - regulatory efforts being done to rid the market of oral artemisinin-based monotherapies which include, among others:
Summary (2)

- **Government:**
  - ban on importation, manufacturing and sale of oral artemisinin-based monotherapies
  - ban on registration of oral artemisinin-based monotherapies
  - ban on importation of products manufactured by nonexistent (4 Ghost) companies
  - closure of unlicensed drug outlets
Empowerment of drug inspectors to Judicial Police level (can confiscates, litigate, destroy oral artemisinin-based monotherapies and other counterfeit and substandard medicines found in the market)

Intensified (global and national) post-marketing surveillance and inspection of drug outlets to ensure the removal of oral artemisinin-based monotherapies, counterfeit and substandard medicines
Other efforts include:

- Training of public and private sectors on rational dispensing and use of ATMs and the ban on oral artemisinin-based monotherapies
- Social marketing of related anti-malaria products by PSI, including training of private sector health worker on proper treatment for malaria
As the result of these efforts we are now seeing:

- decline in unlicensed drug outlets
- decline in counterfeit and substandard medicines
- decline in the sales and distribution of oral artemisinin-based monotherapies
These efforts and results demonstrated in this presentation, however, do not mean that oral artemisinin-based monotherapies have been completely wiped-out in Cambodia – there are some hardcore traders (sourcing their supplies from small unknown factories) that continue to import these products. The government is, however, investigating these traders.

Thank you