Implementing injection safety at the country level: challenges and opportunities

Dr. Huma Qureshi
Consultant Gastroenterologist
EX- Executive Director, Pakistan Health Research Council (PHRC)
Ex-National Lead Viral Hepatitis Control
Background

• Population: 207.77 Million
  – # 6 in population worldwide

• Healthcare:
  – Highest rate of therapeutic injections in the world
  – 70% pop visits private sector for health issues
  – 60-70% expenditure is out of pocket
Pakistan: a cirrhotic state?

Routine reuse of syringes in Pakistan’s back-street health centres has caused a surge in blood-borne infections such as hepatitis B and C, which experts have dubbed “the AIDS of Pakistan”. But to solve this problem, Pakistan must first wean itself off injections. Khabir Ahmad reports.

- Up to 13 injections/person/year

Viral Hepatitis Prevalence (2008), Pakistan

- Large burden of Viral Hepatitis
  - Chronic HCV prevalence: 5% (8.8 million)
    - Genotype 3 predominant
  - Chronic HBV prevalence: 2.5% (4.5 million)
  - HAV & HEV are endemic
  - Pockets of HDV
- Liver disease: Leading cause of mortality
EMRO Hepatitis Burden

EMRO Region

HBV 17.5 M

HCV 16 M
Estimated HCV Infection Burden by Country, 2014

Pakistan: 2\textsuperscript{nd} largest burden of HCV in the world

Estimated HCV Annual Incidence Pakistan 1950 - 2015

Assuming that the total number of infections is remaining constant, it is estimated that there are 240 thousand new infections/year.

Source: Homie Razavi, APASL STC, Karachi, October 2014.
The Most Significant Risk Factors for HCV in Pakistan
## Risk factors determined in National survey

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>No. of Subjects</th>
<th>HCV +ve (%)</th>
<th>OR (95% C.I.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Blood transfusion</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>46640</td>
<td>2235 (4.8)</td>
<td>Reference</td>
</tr>
<tr>
<td>Yes</td>
<td>403</td>
<td>69 (17.1)</td>
<td><strong>4.1 (3.1 – 5.4)</strong></td>
</tr>
<tr>
<td><strong>Use of injections</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>10987</td>
<td>402 (3.7)</td>
<td>Reference</td>
</tr>
<tr>
<td>2 – 5</td>
<td>22623</td>
<td>1007 (4.5)</td>
<td><strong>1.2 (1.1 – 1.4)</strong></td>
</tr>
<tr>
<td>5 -10</td>
<td>10492</td>
<td>641 (6.1)</td>
<td><strong>1.7 (1.5 – 1.9)</strong></td>
</tr>
<tr>
<td>&gt; 10</td>
<td>2941</td>
<td>244 (8.3)</td>
<td><strong>2.4 (2.0 – 2.8)</strong></td>
</tr>
<tr>
<td><strong>History of Hospitalization</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>44757</td>
<td>2070 (4.6)</td>
<td>Reference</td>
</tr>
<tr>
<td>Yes</td>
<td>2286</td>
<td>223 (9.8)</td>
<td><strong>2.2 (1.8 – 2.4)</strong></td>
</tr>
<tr>
<td><strong>Dental treatment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>46347</td>
<td>2231 (4.8)</td>
<td>Reference</td>
</tr>
<tr>
<td>Yes</td>
<td>696</td>
<td>63 (9.1)</td>
<td><strong>2.0 (1.5 – 2.6)</strong></td>
</tr>
<tr>
<td><strong>History of Surgery</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>45189</td>
<td>2135 (4.7)</td>
<td>Reference</td>
</tr>
<tr>
<td>Yes</td>
<td>1854</td>
<td>159 (8.6)</td>
<td><strong>1.9 (1.5 – 2.2)</strong></td>
</tr>
</tbody>
</table>
Therapeutic injection rate - Pakistan

- Highest in the world: 13-14 injections per person/year
- Mostly for common ailments
- Syringes or needles are reused

If we disable the syringe and needle after use- would it make a difference?
Success Story- needle cutting

• 30 wards of tertiary care hospital were provided injection safety equipment

• **Situation before:**
  • syringes were not cut---chance of reuse
  • needle stick injury in HCW was 30%

• **Situation after:**
  • needle stick injury incidence went down to < 2 %
  • Needles were discarded in an underground pit
  • Report was posted on WHO website.
Success story replicated

Infection Control/ Injection Safety Campaign

WHO and PHRC collaboration
26 high hepatitis districts of Pakistan
Components of the Campaign

1. All Primary, Secondary & Tertiary public care health facilities
   2189 facilities in 26 districts were provided;
   i. Needle cutters (10,000 cutters)
   ii. Sharp waste containers (10,000 containers)
   iii. Infection control guidelines, manuals and posters
   iv. small pocket book in Urdu (40,000 copies)

2. Over 1500 Health care workers (Doctors, nurses, paramedics, lab technicians and janitorial staff) were trained as master trainers in infection control
Why the need of the campaign?

• 30% - 40% new hepatitis B & C in developing countries is due to syringe reuse
• High prevalence of Hepatitis B and C in General Population
• Higher prevalence of Hepatitis B and C in health care providers
• Create awareness and avoid unnecessary injections
• Create awareness about proper sterilization of invasive medical devices
• Decrease Needle Stick injuries
Opportunities

• GoP and ministry recognized the enormity of the issue
• Goodwill ambassador is nominated for hepatitis awareness
• Technical Advisory Group on hepatitis: guide Federal & Provincial hepatitis programs on issues and way forward
• Collaboration with National & Provincial health departments and partners (CDC, WHO, TAG, academia and others)
• Enactment of National and Provincial Healthcare Commissions
• Launch of infection control program in some Provinces
• Introduction of new interventions; auto-disable syringes
Opportunities: Pakistan’s National Hepatitis Strategic Framework Launch on Oct 08, 2017
Challenges

- Behavior change takes time: large population demanding injections for common ailments
- Unregulated private sector (70% care provider)
- Non existent infection control committees
- Poor adherence to infection control and injection safety
- Limited funds for auto disable syringes
- Weak monitoring and evaluation of safe injections and infection control
Conclusions

• Unsafe injections or syringe reuse for common ailments is a major risk factor for hepatitis in Pakistan
• Need to create awareness in health care workers and population to use oral medicines instead of injections
• Infection control committees need to be strengthened
• HCW need to adhere to infection control measure
• Health care commissions to take up non compliant health workers and settings
Thank You!