HCV Elimination in Egypt

Prof. Gamal Esmat
Prof. Hepatology & Ex. Vice President of Cairo University, Egypt
Member of WHO Strategic Committee for Viral Hepatitis
www.gamalesmat.com
Disclosure Slide

- Advisory Committee Board Member
  - Merck, Gilead and Bristol-Myers

- Speaking and Teaching Activities
  - Bristol-Myers, Roche, Merck, Janssen and Glaxo

- Grants and Research Support
  - Gilead, Roche, Merck, Glaxo, Abbvie and Pharco
Estimated ~ 170 million globally

Population: 90 Million
HCV-Ab prevalence: ~7%
G4 about 90%

The main goal of the research was tracking the number of hepatitis C patients:

- Total number of HCV patients in year 2014: 6,000,000
- Number of HCV patients who are aware of their infection: 1,000,000
- Number of yearly new diagnosed cases: 120,000
- Number of yearly new infected cases: 120,000 - 150,000
- Number of yearly Liver cancer cases caused by HCV: 16,000
- Number of yearly death cases caused by HCV: 30,000

Waked, ...., Esmat.et.al . Ar.J.G. 2014
Our aim

to maintain a disease Control (by reaching international prevalence disease rates with 2% infection rate compared with the current 7% infection rate).

To reach for disease Elimination (disease rate <1%)
Elimination of HCV in Egypt
Overcoming the Barriers

Decrease incidence
Ideal drug
Mass treatment
Elimination of HCV in Egypt
Overcoming the Barriers

Decrease incidence
Ideal drug
Mass treatment
Decrease incidence

- Blood safety.
- Avoid unneeded injection.
- Auto destructive syringes.
- Infection control.
- Media awareness.
- Case detection and treatment by Ideal drug.
Can treatment impact HCV spread?

- Treatment can be a method of prevention if:
  - Applied early in the course of infection.
    R0 of the untreated HCV epidemic in the Egyptian community is 3.50 (95% CI 2.95-4.03).
  - Efficacy >80%
  - Patients contributing most to HCV spread, the so-called «surperinjectors», are targeted preferentially (for treatment, and prevention!)

(Breban et al. Lancet Global Health, 2014)
National Plan of Action: conclusions

• Increase policymakers’ commitment to supporting the policy change necessary to prevent viral hepatitis transmission.
• Educate healthcare workers to prevent transmission of viral hepatitis in Egypt.
• Increase public awareness of viral hepatitis prevention.
• Promote safe injection practices in the community.
• Annual treatment of 200-350,000 patients by DAA in 46 centers in 2015 aiming to reach 100 centers by the end of 2016.
Elimination of HCV in Egypt
Overcoming the Barriers

Decrease incidence
Ideal drug
Mass treatment
DAAs Battle

Negotiation Phase
Brands (1% of its USA price)

National Victory Phase
Generics (15% of the brands)
Different Protocol for HCV treatment in Egypt
Treatment outcome for the different Protocols (Real Life)

- SOF/IFN/RBV: 90%
- SOF/RBV: 78%
- SOF/SIM: 93%
- SOF/DAC: 97%
- SOF/DAC/RBV: 96%

References:
- Waked, EASL July 2016
Elimination of HCV in Egypt
Overcoming the Barriers

Decrease incidence
Ideal drug
Mass treatment
Online Registration

A web-based online registration system website (www.nccvh.org.eg) once the first DAA was registered in Egypt. This portal was designed for registration of patients with HCV and scheduling appointments at the treatment centres. Inputs from patients’ registry include their national ID, residence and a simple question for validation.

Patients registered online for appointments till end of 2016

1 5 5 1 7 1 8
In 2007, the NCCVH established its first specialized centres for treatment of viral hepatitis within MOHP healthcare facilities. Centres were planned to be geographically distributed in the most populous areas. Training the healthcare professionals (hepatologists, infectious disease specialists, physicians) to deliver an efficient counseling, care and treatment programme for patients with chronic HCV in accordance with the updated national guidelines.
Mass Treatment

To reach 2% Infection Rates in 2025 and less than 1% in 2030:

Treatment with 90% curing rate or higher should be applied. Number of yearly cured cases should exceed from 65,000 case in 2014 to 150,000 case in 2015 (>300,000), then to 275,000 case in 2016 (>600,000), then to 350,000 from 2018.
Egypt was the first country all over the world to reimburse DAA treatment for HCV patients regardless of fibrosis starting from May 2015.
The cost of 3 months treatment (sofo+dacla) per patient
Brand vs Generic (1$=18 EP)

Reduced by 85.5%
Availability of the generic drugs in a reduced price encourage people to take medication from private sector (200,000 patients)
Curing of 3,750,000 patients should be considered to reach 2% infection rates.

Curing of 5,000,000 patients to reach less than 1% infection rate, during selected period of time.
Screening for HCV in Egypt
(Targeted Screen)

1. Families of HCV patients.
   - Healthcare providers.
   - Prisoners
   - Students admitted to universities
   - Patients attending intervention procedures in hospitals.

3. Universities students
   - Any one asking for a service in a medical facility.
   - Before ID or driving license,
   - Governmental employs.

5. Everyone
<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2030</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Base case</td>
<td>Increase efficacy only</td>
<td>Increase efficacy and treatment</td>
<td></td>
</tr>
<tr>
<td>Treated (annual)</td>
<td>65,000</td>
<td>65,000</td>
<td>65,000</td>
<td>325,000 (2018)</td>
</tr>
<tr>
<td>Treatment rate</td>
<td>1.1%</td>
<td>1.1%</td>
<td>1.1%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Average SVR</td>
<td>48%</td>
<td>48%</td>
<td>90% (2014)</td>
<td>90% (2014)</td>
</tr>
<tr>
<td>Newly diagnosed (annual)</td>
<td>125,000</td>
<td>125,000</td>
<td>125,000</td>
<td>340,500 (2020)</td>
</tr>
<tr>
<td>% Treatment eligible</td>
<td>50%</td>
<td>50%</td>
<td>90% (2016)</td>
<td>90% (2014)</td>
</tr>
<tr>
<td>Treated stages</td>
<td>≥F2</td>
<td>≥F2</td>
<td>≥F2</td>
<td>≥F0</td>
</tr>
</tbody>
</table>

**Impact**

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2030</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># Total infected</td>
<td>6,000,000</td>
<td>4,420,000</td>
<td>4,045,000</td>
<td>280,000</td>
</tr>
<tr>
<td>Change from 2013 (%)</td>
<td>-26%</td>
<td>-32%</td>
<td>-95%</td>
<td></td>
</tr>
<tr>
<td># Compensated cirrhosis</td>
<td>630,000</td>
<td>610,000</td>
<td>507,000</td>
<td>76,000</td>
</tr>
<tr>
<td>Change from 2013 (%)</td>
<td>-2%</td>
<td>-19%</td>
<td>-88%</td>
<td></td>
</tr>
<tr>
<td># Decompensated cirrhosis</td>
<td>138,000</td>
<td>136,300</td>
<td>110,000</td>
<td>17,000</td>
</tr>
<tr>
<td>Change from 2013 (%)</td>
<td>-0.6%</td>
<td>-21%</td>
<td>-87%</td>
<td></td>
</tr>
<tr>
<td># HCC</td>
<td>16,000</td>
<td>18,500</td>
<td>16,000</td>
<td>2,400</td>
</tr>
<tr>
<td>Change from 2013 (%)</td>
<td>+15%</td>
<td>0%</td>
<td>-85%</td>
<td></td>
</tr>
<tr>
<td># HCV related mortality</td>
<td>33,000</td>
<td>36,500</td>
<td>30,700</td>
<td>7,500</td>
</tr>
<tr>
<td>Change from 2013 (%)</td>
<td>+10%</td>
<td>-7%</td>
<td>-77%</td>
<td></td>
</tr>
</tbody>
</table>
Endorsement of success

Egypt combats hepatitis C epidemic with state-run scheme
Two-year-old programme treats 1m patients following outbreak sparked by dirty needles

About 7 per cent of Egypt's 90m population have the hepatitis C virus © AFP
From Land Of History

We will Make HCV a History
THANK YOU

Nile River in Cairo