

## MCT Insights – Plan to make HCV disappear in Egypt

Egypt has the highest prevalence of Hepatitis HCV in the world, it started in the mid-20<sup>th</sup> century when there is a wide parasitic schistosomiasis spread caused by fresh water snails. The Egyptian government conducted treatment campaigns using injectable needles that were repeatedly used causing the virus to spread between many citizens.

The U.S. Company Gilead developed a medication ‘Sofosbuvir’ that was approved for medical use in the United States in 2013. Sofosbuvir proved its efficacy with less side effects comparing to prior treatments, it is within the vanguard of a wave of pills that might cure HCV in millions of people all over the world, or maybe eradicate it entirely. However this could only happen if the new therapies are affordable enough to permit widespread use.

Gilead offered the medicine with a cost of \$1 000/pill for a 12-week course of treatment which means that \$84,000 charged for a course treatment in the United States. However they finalized an agreement with the Egyptian government to supply the medicine to Egypt for \$900 for a 12-week course of treatment which means \$300 for a one-month box and \$10/pill.

In 2016 Egypt launched a nationwide program to cure HCV and to make the national infection rate decrease. The first year was successful: A total of 125,000 patients have been treated with Sofosbuvir. Although the first year was a success, the challenge shifted to screen and diagnose the people who need the treatment, accordingly, the government conducted a nationwide screening program.

More than 260 groups of community-health staff are visiting village by village. By late 2017, they had screened 1 200 communities. Still, treatment has slowed from a high-point in 2016, the Egyptians treated in 2017 fell by 30 % 2016, despite a 4 million Egyptians are still infected within the country.

Between 2016 and 2017, a retrospective research involved 648 HCV patients in Alexandria who were treated with generics, generic direct-acting drugs demonstrated equal potency, safety and tolerability compared to original brands, with low cost which would help provide treatment to a large scale of patients. Another study in 2018 involved 971 patients and aimed to compare efficacy of brand and generic DAAs (directly acting antivirals) used in the national treatment program in Egypt. The study result proved that generic and brand DAAs are equally effective for achieving SVR and improving aminotransferases. Generic manufacturers drove the price of sofosbuvir in Egypt from \$900 by Gilead Sovaldi to \$84 per patient. The government offered full coverage for the treatment costs through the health insurance for those who were already

diagnosed and civil organizations have started to get involved in screening, too. The prevalence of the disease is around double as high within the poorest quintile of the population compared to the wealthiest. Health insurance centers that treat HCV are spread all over Egypt so it can treat HCV patients.

Egypt can eliminate the disease fast but it depends on how quick they diagnose the infected people. As the country is currently screening and treating patients, this could potentially suggest a reduction in country prevalence by half by the year 2023. If it substantially scales up the program, at an additional cost of \$530 million, it could essentially eliminate the disease by then.

It was difficult to provide funding sources to the HCV eradication program as only 40% of the HCV-infected individuals are enrolled in government programs for HCV eradication, whereas the HCV treatment expenditure for the remaining 60% individuals comes from Health Insurance Organization, insurance companies, and private out-of-pocket spending. Fortunately, funds were secured from the governmental support funds issued to individuals who are not under the umbrella of health insurance, and a large number of patients achieved SVR.

Egypt provided a very good model in eradicating HCV which can be used by other countries in treating their people.

Written by Karim Essam,

Clinical Research Associate at MCT (MCT is a regional CRO specialized on Africa and Middle East) based in Cairo/ Egypt.

## References

1. ALCORN, TED. 2018. "Why Egypt Is at the Forefront of Hepatitis C Treatment." *The Atlantic*, May 29.
2. Dalia Omran, Mohamed Alborai, Rania A Zayed, Mohamed-Naguib Wifi, Mervat Naguib, Mohamed Eltabbakh, Mohamed Abdellah, Ahmed Fouad Sherief, Sahar Maklad, Heba Hamdy Eldemellawy, Omar Khalid Saad, Doaa Mohamed Khamiss, and Mohamed El Kassas. 2018. "Towards hepatitis C virus elimination: Egyptian experience, achievements and limitations." *World J Gastroenterol* (NCBI) 4330–4340.

3. Lashen SA, Shamseya MM, Madkour MA, Aboufarrag GA. 2019. "Tolerability and effectiveness of generic direct-acting antiviral drugs in eradication of hepatitis C genotype 4 among Egyptian patients." *Liver Int* (NCBI) 835-843.
4. MaiAbozeid, AymanAlsebaey, EmanAbdelsameea, WardaOthman, MostafaElhelbawy, AmrRgab, MarwaElfayomy, Tamer Samir Abdel-Ghafar, MervatAbdelkareem, AlyaaSabry, MarwaFekry, NashwaShebl, EmanRewisha, ImamWaked. 2018. "High efficacy of generic and brand direct acting antivirals in treatment of chronic hepatitis C." *International Journal of Infectious Diseases* (Science Direct) 75: 109-114. <https://www.sciencedirect.com/science/article/pii/S1201971218344862>.
5. Novak, Kristine. 2017. "Gilead Sells Sofosbuvir to Egypt for About \$10 per Pill." *AGA Journals*.