

# Innovative approaches towards a free village from viral hepatitis in Egypt

**Gamal Shiha<sup>1,3</sup>, Ammal M. Metwally<sup>2,3</sup>, Aly Elsayed<sup>1</sup>, Reham Soliman<sup>3,6</sup>, Mohamed Elbasiony<sup>1,3</sup>, Philippa Easterbrook<sup>4</sup>, Nabel NH Mikhail<sup>3,5</sup>**  
 1 Internal Medicine Department, Faculty of Medicine, Mansoura University, Egypt, 2 Department of Community Medicine Research, Medical Division, National Research Center, Giza, Egypt, 3 Egyptian Liver Research Institute and Hospital (ELRIAH), Mansoura, Egypt, 4 Global Hepatitis Programme, HIV Department, World Health Organization, Geneva, Switzerland, 5 Department of Biostatistics and Cancer Epidemiology, South Egypt Cancer Institute, Assiut University, Egypt, 6 Tropical Medicine Department, Faculty of Medicine, Port Said University, Egypt

## DESCRIPTION

A demonstration project was established in June 2015 to eliminate HCV infection from Al-Othmanya village in Gharbiah governorate in northern Egypt – a village of around 7000 persons from 1242 houses.

**This model comprised four distinctive phases of activities:-**

- 1. Partnership and community mobilization:** This included establishment of village Community committee; selection of network of village promoters; their training and education and village orientation and social mobilization for implementation of awareness raising and behavior change campaigns
- 2. Development and implementation of educational and behavioral change interventions to reduce new infections through social mobilization Campaigns**
- 3. Fund raising through Social Marketing Activities for public donations**
- 4. Comprehensive testing and treatment of all eligible adult villagers >12-80 years:.** All eligible patients received a 24-week course of sofosbuvir and ribavirin with evaluation of SVR12 for treatment.

## PUBLIC HEALTH IMPACT

4215 villagers (89.3%) out of 4721 eligible villagers aged between 12 and 80 years were screened for HCV antibody and HBsAg using rapid tests at the community level.

Of 4215, 530 (12.6%) were HCV antibody positive and 8 (0.29%) were HBsAg positive. Only 312 of 530 (58.9%) were HCV PCR positive, and all 312 (100%) received 24 weeks of sofosbuvir and ribavirin treatment within a median of 2.3 weeks from serological diagnosis (IQR = 0 to 3.71 weeks).

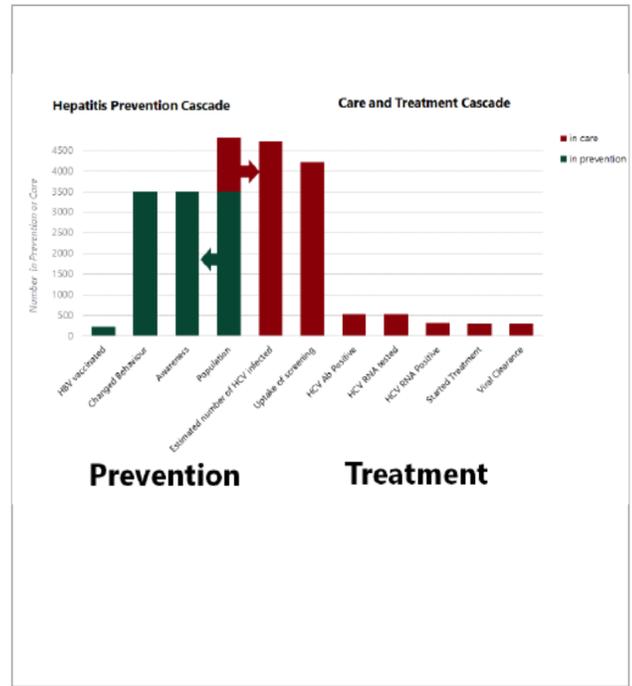
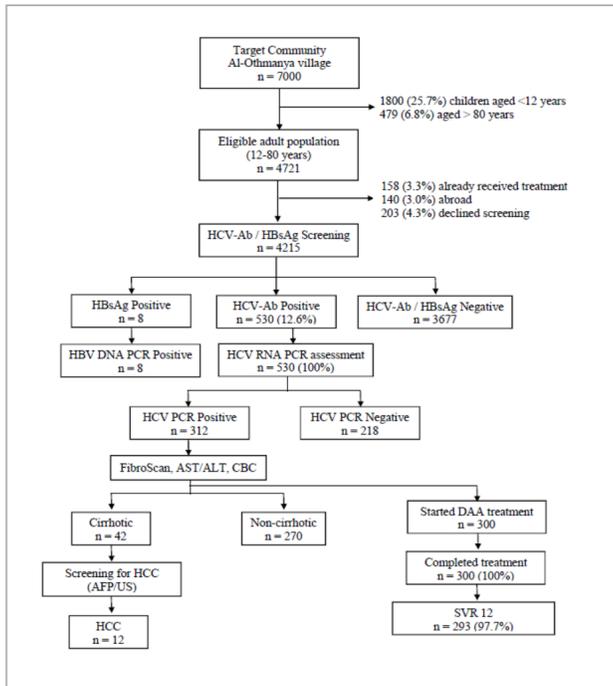
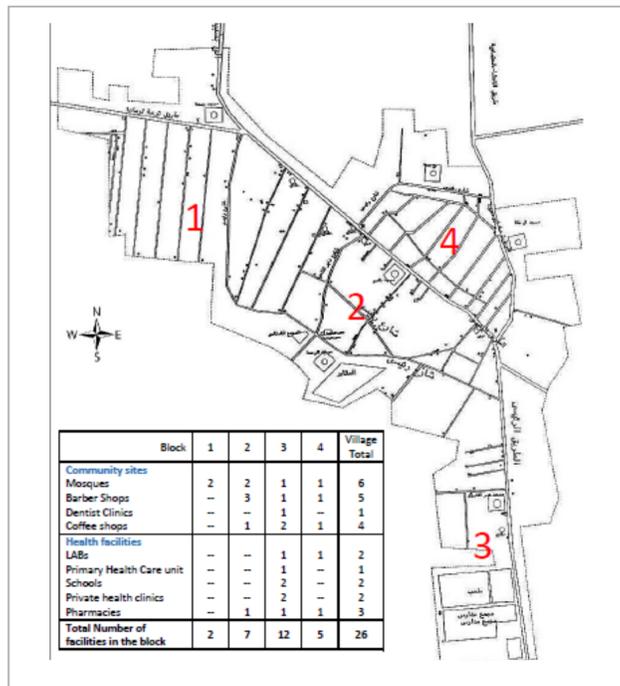
Behavior change interventions in 26 community facilities and 3575 of 4215 villagers (84.8%) were associated with statistically significant improvements in scores on awareness, perceived risk, attitude towards healthy behaviors and adoption of safe practices, especially among local barbers and dentists

Promoting healthy practices and ensuring long-term initiative sustainability are associated activities that grantee elimination of HCV.

## WHY IS THIS INNOVATIVE?

**1)** The rich people donate for the poor. Donation was supported by “Islamic Religious Belief for paying from Zakat” – a well-established concept in Islam of public donation by wealthy persons to support those with low income.

**2)** **Building community coalition** and using the four Ps of SMM for the targeted audience; *The product for the well to do* was “donate for and treat a liver patient, saves life”,. *The product for the primary audience* was “6 things that might NOT happen when you get treated from HCV”. The delivered messages were the results of the conducted community formative research for identifying the most promising motivators. *The price* was ensured for the incapable and in need by the well to do and by ELRIAH (each treat 30 % of the diagnosed cases). *The promotion* was the responsibility of the CC through implementation of SMM campaigns. **3)** As novel communications technology approach, an automated SMS system was used through what’s app for delivering the messages (product). Also sending Arabic song with the recommended behaviors to every diagnosed patient. *The Place* for screening was delivered by ELRIAH team using rapid test in a convenient place chosen by the community. The confirmation for diagnosis by the PCR and treatment were delivered in ELRIAH.



## CONCLUSIONS

This initiative is a way forward for elimination of hepatitis from Egypt. It is conducted in El Othmanya village as an exemplary and ideal model ready for replication and repetition.

This community-based strategy was highly effective in achieving high uptake of testing, linkage to care and treatment, and cure in one village in northern Egypt.

This model has now being extended to 36 other villages across Egypt with more than 85,000 persons screen and 8324 treated.

It represents an important strategy to complement the national government program towards eradication of HCV as a public health threat in Egypt. It is also applicable to other countries with high HCV prevalence in the general population based in rural areas.

## REFERENCES

- 1) Science and Technology Development Fund (STDF), Egypt, Grant No 1774, Changing Behavioral Aspects Leading to Hepatitis C Endemicity through Developing Educational and Multi-media Tools.
- 2) CDC (2016) Division of Viral Hepatitis (DVH) Strategic Plan, 2016–2020: Bringing Together Science and Public-Health Practices for the Elimination of Viral Hepatitis <http://www.cdc.gov/hepatitis/pdfs/dvh-strategicplan2016-2020-draft.pdf>

## CONFLICTS OF INTEREST

There are no conflicts of interest

## Contact Information

NAME : Prof. Ammal Metwally  
 TEL NO: +201222280640  
 EMAIL: ammal\_mok@yahoo.com/am.metwally@nrc.sci.eg