POSTER REFERENCE NUMBER: 210

A Nation-wide Investigation of Real-World Community Effectiveness in HCV Treatment for Policy-making Toward Elimination of HCV by 2030 in Taiwan

Ming-Lung Yu, Chia-Yen Dai, Jee-Fu Huang, Wan-Long Chuang
Hepatitis Center & Hepatobiliary Section, Department of Internal Medicine, Kaohsiung Medical University Hospital, Kaohsiung Medical University
Taiwan Liver Research Foundation, Kaohsiung, Taiwan

BACKGROUND

Hepatitis C virus (HCV) treatment has emerged from interferon (IFN)-based to IFN-free direct acting antivirals (DAA) therapy. However, there exits huge gap between clinical efficacy and community effectiveness in HCV treatment. To achieve the goal of HCV elimination by 2030 set by WHO, we conducted serial nation-wide investigations for policy-making to eliminate HCV elimination in Taiwan.

Figure 1 The gap between high clinical efficacy and low community effectiveness in Taiwan

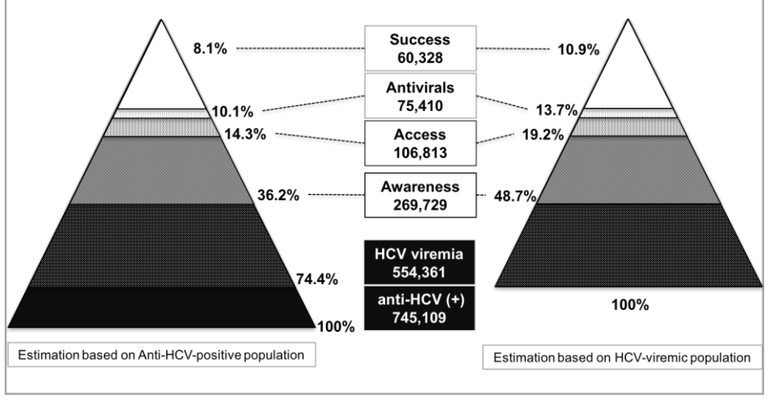


Figure 2 Causes for not being treated with anti-HCV therapy

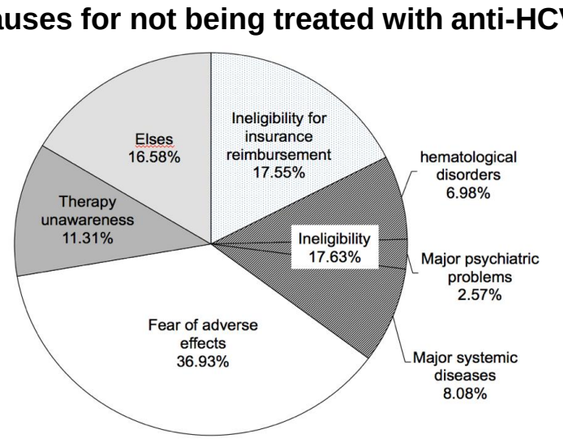
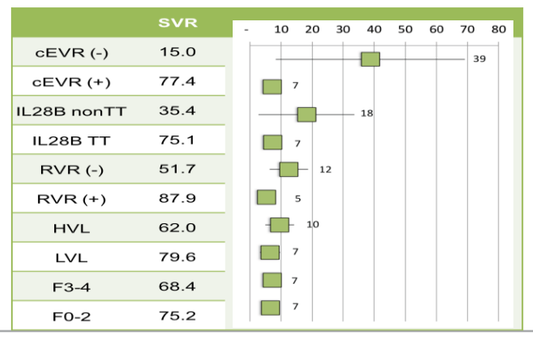


Figure 3 medical-care cost on HCV-1



METHODS

1. Constructing a model to evaluate the rates of disease diagnosis, awareness, accessibility, treatment rate, and clinical efficacy of HCV at national level.

2. Evaluating the cost-effectiveness of HCV therapy with Peg-IFN/ribavirin by linking a real world cohort to the National Health Insurance database as a reference of DAA cost for policy-makers.

3. Assessing risk of hepatocellular carcinoma (HCC) by “time-degenerative factors” with 1281 biopsy-proven patients receiving Peg-IFN/ribavirin with/without sustained virological responses (SVR) followed for 5.5 years (range: 0.5-18.0y) to provide evidence for prioritizing HCV therapy to lessen the huge impact of DAA on budget and professional manpower for national policy-making.

Figure 4a HCC% stratified by SVR and age

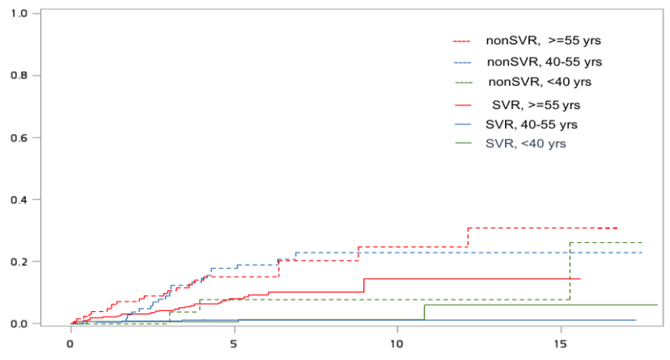
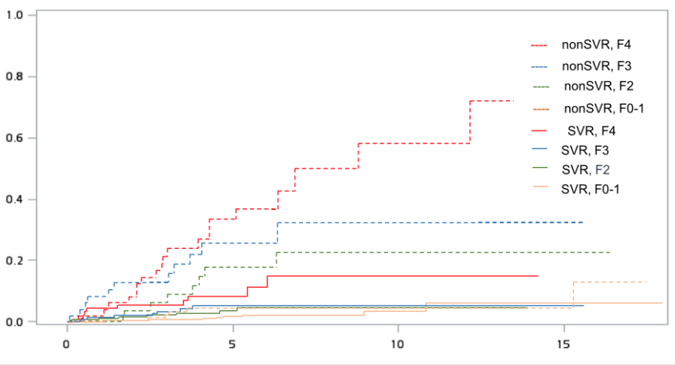


Figure 4b HCC% stratified by SVR and fibrosis



RESULTS

1. The estimated age, sex-adjusted anti-HCV-seropositive and HCV-viremic population is 745,109 (3.28%) and 554,361, respectively, in Taiwan. Among HCV viremic population, 48.7% had disease awareness. Among those with awareness, 39.6% had accessibility (19.2% of HCV viremic population) . The recommendation/acceptance rate of antiviral therapy was 70.6% for those with accessibility (13.7% of HCV viremic population). With an anticipated treatment success rate of 80% by interferon-based therapy in Taiwan, only 10.9% of the HCV-viremic population achieved successful treatment. (***Figure 1***) The major treatment barriers were fear of adverse effects (37%), major disorders (17.6%), ineligibility for insurance reimbursement (17.6%), and lack of therapy awareness (11.3%). (***Figure 2***)

2.With PegIFN/ribavirin, the average real world medical-care cost was USD $6,105 (±$3,778) per SVR achieved ($8,285 for HCV genotype 1 [HCV-1] and $4,663 for HCV-2, respectively, p< 0.0001) for naïve patients, and $13,722/SVR achieved for treatment-experienced patients. (***Figure 3***)

3. Compared with SVR, non-SVR had higher HCC risk in patients 40-55 y (HR/CI: 10.92/3.78-31.56) and those > 55 y (HR/CI: 1.96/1.06-3.63) but not in patients < 40 y (HR/CI: 2.76/0.41-18.84); and in patients with fibrosis score F2-3 (HR/CI: 4.36 /2.10-9.03) and F4 (HR/CI: 3.84/1.59-9.30) but not in those with F0-1 (HR/CI: 1.53/ 0.49-4.74). The data highlighted the urgency of successful treatment for aged patients and/or patients with advanced liver fibrosis. (***Figure 4a and 4b***)

CONCLUSIONS

Only 10.9% of HCV patients were successfully treated due to low disease awareness, accessibility, and unsatisfactory rate of acceptance. Increasing disease awareness and accessibility, introduction of IFN-fee DAA with reasonable price according to our real-world cost effectiveness analysis to reduce the treatment barriers and stepwise prioritizing patient treatment based on time degenerative factors, age and hepatic fibrosis status, are justified to reach the ultimate goal of HCV elimination. Based on our research, the Taiwan government is setting the “Office for HCV elimination” at a national level to eliminate HCV in Taiwan by 2030.

REFERENCES

1. Yu ML, Yeh ML, Tsai PC, et al., Huge Gap Between Clinical Efficacy and Community Effectiveness in the Treatment of Chronic Hepatitis C - A Nationwide Survey in Taiwan. Medicine (2017), 94:13, e690
2. Tsai PC, Liu TW, Tsai, YS et al., Identification of groups with poor cost- effectiveness of peginterferon plus ribavirin for naïve hepatitis C patients with a real-world cohort and database. Medicine (2017), 96: 22, e6984
3. Yu ML, Huang CF, Yeh ML, et al., Time-Degenerative Factors and the Risk of Hepatocellular Carcinoma after Antiviral Therapy among Hepatitis C Virus Patients: A Model for Prioritization of Treatment Clin Cancer Res (2017), 23: doi: 10.1158/1078-0432

CONFLICTS OF INTEREST

No conflicts of interest to disclose.

Contact Information
NAME: Ming-Lung Yu
TEL NO: 886-7-3121101 ext.7475
EMAIL: fish6069@gmail.com

World Hepatitis Summit 2017
SÃO PAULO, BRAZIL 1-3 NOVEMBER