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## Implementation of the State Program on elimination of viral hepatitis C in Ukraine: achievements and challenges

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**Background:** According to estimated data in our country at least 5% of population is infected with HCV, that is more than 2 million of people and according to the data of Ministry of Public Health, 105,000 patients with chronic hepatitis C (CHC) are registered. In 2014 State Program on Prevention, Diagnosis and Treatment of viral hepatitis was implemented, which significantly increased access to highly effective treatment. As part of the implementation of the State Program, according to data received from the regions, 46,984 patients with chronic hepatitis C are registered. About 8,000 people with chronic hepatitis C are officially registered in the regions each year, among whom 73.3% of cases of chronic hepatitis C are diagnosed for the first time, and in 28.3% of cases the disease is diagnosed for the first time already at the stage of cirrhosis.

**Materials and methods:** Implementation of the State Target Social Program for the prevention, diagnosis and treatment of viral hepatitis in Ukraine was analyzed. The analysis included 7920 patients who received treatment as part of the State Program. The diagnosis of chronic hepatitis C (CHC) was established on the basis of clinical and laboratory data, verified by identifying viral RNA and the genotype of the virus by PCR. All patients were assessed for the degree of liver fibrosis.

**Results:** Among patients registered in the frame of State Program, 1st genotype dominates - 51.3%, on the second place - 3rd genotype with 35.0%, 3.8% of patients were infected with 2nd genotype, in 10.0% of patients genotype remains unidentified. 8920 patients were treated in the framework of National program, regional programs, support programs. In the frame of State Program both interferon-containing schemes and DAAs were available: peg-interferon + ribavirin (PEG-IFN + RB), sofosbuvir + peg-interferon + ribavirin (SOF + PEG-IFN + RB), sofosbuvir + ribavirin (SOF + RB), sofosbuvir +

ledipasvir (SOF + LED), ombitasvir / paritaprevir / ritonavir + dasabuvir (3D), however interferon-containing schemes gradually disappeared and have not already been provided for as part of government procurement for 2018. SVR achievement was analyzed in 5452 patients. Frequency of SVR depended on the treatment regimen and was the highest in DAAs regimens. SVR rate in Peg-IFN + RB combination was the lowest - 68%, using a combination of SOF + PEG-IFN + RB, increased effectiveness of therapy to 89%, SVR rate with combination SOF + LED was 95.3%, 3D - 98.9%.

**Conclusions:** In frame of State Program most effective were regimens using DAAs combinations of SOF + LED and 3D, SVR rate was 95.3% and 98.9%, respectively. The introduction into clinical practice DAAs has significantly increased the effectiveness of treatment, reduced duration and decreases side effects. However, in Ukraine at the moment, far from all the necessary combinations are available under the State Program. Regimens available today in Ukraine have a significant limitation of use in groups of experienced patients with cirrhosis and chronic kidney diseases. The proportion of the so-called "difficult" patients who did not reach SVR on NS5A inhibitor containing regimens is increasing.