Elimination of Hepatitis C Virus: A Goal of WHO

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ABSTRACT
World Health Organization (WHO), in May 2016, declared its first goal for the elimination of HCV. The main goal of this program is to reduce the 80% number of new HCV infection and 65% decrease in the death rate. Micro-elimination method of HCV motivates the policy makers to design a national goal and address the community about the risk factors of HCV transmission. A number of factors including the awareness campaign in the community, train the health professionals, boost the screening capacity; micro-elimination of high-risk areas and a dire need of prophylactic vaccine are possible factors to achieve the goal of HCV elimination by the end of 2030.

INTRODUCTION
World Health Organization (WHO), in May 2016, declared its first goal for the elimination of HCV. It takes the feasible steps to eliminate the viralhepatitis as a public health burden until 2030. The main goal of this program is to reduce the 80% number of new HCV infection and 65% decrease in the death rate. Globally few countries are taking serious actions to reach this goal at the end of 2030. According to WHO 15 countries were developed HCV elimination plan at the end of 2017. Basically, elimination of HCV is a new idea and it commences from the designed geographical location or it may be from micro-elimination of HCV to macro-elimination. To achieve this goal for the elimination of HCV its dire need to take important steps and follows the plan of WHO. A number of factors including the awareness campaign in the community, train the health professionals, boost the screening capacity; micro-elimination of high-risk areas and a dire
need of prophylactic vaccine are possible factors to achieve the goal of HCV elimination by the end of 2030.

RAPID SCREEING PROGRAM

To achieve the goal screening is just focused on the infected patients mostly in the highly infected population who inject drugs, homosexuality, and blood recipients. Screening of HCV in mostly underprivileged countries is not easily accessible due to the financial conditions and the administration problems. In underprivileged countries the process of screening should be simple and accomplished in the shape of point-of-care (POC) testing. Recently rapid screening procedure developed for the diagnosis of HCV. Point-of-care tests simple procedure of diagnosis do not require laboratories examination it facilitates the individuals outside of healthcare department and the process require saliva or capillary blood for diagnosis. Rapid screening within less time will be helpful to eliminate the viral hepatitis and achieve the goal of WHO.

RISK MEASURING FACTORS

One of the more accessible methods to reduce the risk of HCV infection is to monitor the risk measuring factors. Different reduction factors are common in life but the community is unaware so, a comprehensive awareness campaign is also a feasible platform in the reduction of HCV.

Unhygienic use of needles

Different researches explained unhygienic and excessive use of needles is the possible factor of HCV transmission. Mostly healthcare staffs are not trained and are not familiar about the standard sterilization procedure so they use the infected syringes which are the possible factor for HCV transmission. It’s very important to educate the health department about the safety rules and practically trained to avoid misuse of infected needles.

Blood transfusion

In the low-income countries blood transfusion is the major factor of HCV transmission. The feasible causes include lack of knowledge, poor infrastructure, a smaller number of medical resources, untrained health workers, poor management and lack of screening resources for donor anti-HCV antibody test. Improvement in all the disciplines becomes possible source to gain the WHO goal for elimination of HCV.

Society barber salon

It is also a significant factor of HCV prevalence in the community. The longterm usage of a razor contaminated with the HCV when cause micro trauma on the soft skin of the face and armpit is a possible source of HCV transmission. Health officials should take effective measures to reduce such activities and aware the barber shops about the safety rules to reduce the risk of HCV infection.

Homosexuality and Intravenous drug abusers

Sexual transmission of HCV is also at higher risk factor among the sex workers and homosexual men. HCV transmission in the community related to sex is specifically correlated with sexually transmitted diseases (STDs). However, sexual practices which are possible risk factors of HCV should be identified. While, intravenous drug users are also the higher risk of HCV infection in northern countries with the prevalence of 15 % and 90%. Risk reduction steps have been observed to control the prevalence of HCV. The effective steps including the opioid alternate like methadone and buprenorphine.

Other risk factors

There are also other different serious risk factors which contribute in the transmission of HCV infection include dental & surgical operations, skin piercing, tattooing and dialysis units.
MICRO-ELIMINATION OF HIGH-RISK GROUPS

Micro-elimination methods of HCV infection motivate the policy makers to design a national goal and address the community about the risk factors of HCV transmission. This method is best adapted for the highly risky areas where the control of HCV transmission is challenging. Micro-elimination approach is adapted in high risk areas to find infected patients, their treatment and monitoring techniques according to its prevalence condition. The positive response of micro-elimination is to point out the designed population is to decrease the prevalence of infection with continuum of care. This reduction in the number of infected patients authorized the health staff to shift their effort in other risky areas. However, most countries lack of epidemiological data do not have access to measure the highly risk population for micro-elimination. After the successful micro-elimination, the policy makers move forward to macro-elimination to achieve the WHO goal of HCV elimination by 2030.

Micro-elimination designed group

- Patients under treatment
- Prisoners
- Children
- Highly risk communities
- Intravenous drug abusers
- Homosexuality
- Hemophilia patients

DIRE NEED OF PROPHYLACTIC VACCINE

Direct acting antivirals (DAAs) showed positive response for the treatment of HCV infection which retards the NS protein function of HCV essential for the viral replication. Second generation DAAs after 2014 showed positive response with 95% cure rate. According to this effective response WHO designed a goal of HCV elimination by 2030 but without productive vaccine there are many drawbacks. Firstly, DAAs therapy sometimes causes viral resistance which reduces the treatment of infected patients. Secondly, DAAs treatment therapy is expensive and unreachable in mostly developing countries. Thirdly, the complete elimination of HCV is not clear from infected individuals it may cause reinfection. Meanwhile, the immunity developed with DAAs treatment is not protective and reinfection may also occur. All of these obstacles demand a dire need of prophylactic vaccine to reduce the transmission of HCV worldwide. The production of effective vaccine will be a strong immunity developing method to combat the HCV infection and achieving the goal of WHO. The current vaccine development approaches against the HCV include are,

- Recombinant proteins
- DNA vaccine
- Viral vector expressing antigens
- Synthetic peptides
- Virus like particles

DIFFERENT COUNTRIES RESPONSE

Globally 12 countries have been observed following the goal of WHO elimination of HCV until 2030 in which include Switzerland, Italy, Australia, Netherland, Egypt, Mongolia, France, UK and others. Out of all these Iceland may be the first to achieve this target because Iceland have distinct geographic location with reputable staff, trained healthcare staff with highly infrastructural material as well as less number of infected patients. But in Europe, there are wide range of imbalance in what they have been attained and what leftover to be completed to make the WHO goal. Many international pharmaceutical companies and international societies help the smaller countries by delivering anti-viral drugs to eliminate the prevalence of HCV to meet the goal of WHO.
KEY FACTORS FOR THE ELIMINATION OF HCV

- Awareness campaign of HCV
- Accessible methods of testing and treatment
- Correlation with care
- Facility of medicine (DAAs)
- One health national strategy

CONCLUSION

HCV infection can be controlled with effective measures and every country should design a national plan to combat the disease. It is required to provide better medical facilities, trained healthcare staff and availability of therapeutic drugs (DAAs). Many barriers still remain with the direct acting antivirals therapy so, it’s a dire need to develop effective prophylactic vaccine for the better immunity.

Furthermore, all the countries adapt the safety regulation guidelines to reduce the HCV infection for achieving the goal of WHO by 2030.

REFERENCES


