Consensus Statement of HCV Task Force of the Indian National Association for Study of the Liver (INASL). Part I: Status Report of HCV Infection in India

Pankaj Puri[*,a], Anil C. Anand[†,b], Vivek A. Saraswat[‡,c], Subrat K. Acharya[§,c], Radha K. Dhiman[‖,c], Rakesh Aggarwal[‡,c], Shivram P. Singh[¶,c], Deepak Amarapurkar[#,d], Anil Arora[**,d], Mohinish Chhabra[††,d], Kamal Chetri[‡‡,d], Gourdas Choudhuri[§§,d], Vinod K. Dixit[‖‖,d], Ajay Duseja[¶¶,d], Ajay K. Jain[##,d], Dharmesh Kapoorz[***,d], Premashis Kar[†††,d], Abraham Koshy[‡‡‡,d], Ashish Kumar[**,d], Kaushal Madan[§§§,d], Sri P. Misra[‖‖‖,d], Mohan V. G. Prasad[¶¶¶,d], Aabha Nagral[###,d], Amarendra S. Puri[****,d], R. Jeyamani[††††,d], Sanjiv Saigal[§§§,d], Shiv K. Sarin[‡‡‡‡,d], Samir Shah[§§§§,d], P. K. Sharma[‖‖‖‖,d], Ajit Sood[¶¶¶¶,d], Sandeep Thareja[####,d], Manav Wadhawan[*****,d]

*Department of Gastroenterology, Army Hospital (R & R), New Delhi 110010; †Department of Gastroenterology and Hepatology, Indraprastha Apollo Hospital, New Delhi 110076; ‡Department of Gastroenterology, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow 221016; §Department of Gastroenterology, All India Institute of Medical Sciences, New Delhi 110029; ‖Department of Hepatology, Postgraduate Institute of Medical Education and Research, Chandigarh 160012; ¶Cuttack Medical College, Cuttack, Orissa 753007; #Department of Gastroenterology, Bombay Hospital, Mumbai 400020; **Department of Gastroenterology, Sir Ganga Ram Hospital, New Delhi 110060; ††Department of Gastroenterology, Fortis Hospital, Mohali, Punjab 160047; ‡‡Department of Gastroenterology, International Hospital, Guwahati, Assam 781005; §§Department of Gastroenterology, Fortis Hospital, Gurgaon, Haryana 122002; ‖‖Department of Gastroenterology, Banaras Hindu University, Varanasi, UP 221005; ¶¶Department of Gastroenterology, Chaithram Hospital, Indore, MP 452014; ##Department of Gastroenterology, Global Hospital, Hyderabad, AP 500004; ***Department of Gastroenterology, LNJP Hospital and Maulana Azad Medical College, New Delhi 110002; †††Department of Hepatology, Lakeshore Hospital, Cochin, Kerala 682304; ‡‡‡Department of Gastroenterology, Medanta Medicity, Gurgaon, Haryana 122001; §§§Department of Gastroenterology, MLN Medical College, Allahabad; ‖‖‖Department of Gastroenterology, VGM Hospital, Coimbatore 641005; ¶¶¶Department of Gastroenterology, Jaslok Hospital, Mumbai 400026; ###Department of Gastroenterology, GP Pant Hospital, New Delhi 110002; ****Department of Gastroenterology, Christian Medical College, Vellore, Chennai 632004; ††††Institute of Liver and Biliary Sciences, Vasant Kunj, New Delhi 110070; ‡‡‡‡Department of Gastroenterology, Global Hospital, Mumbai 400078; §§§§Department of Gastroenterology, Command Hospital (SC), Pune 411040; ‖‖‖‖Department of Gastroenterology, Dayanand Medical College, Ludhiana, Punjab 141001; ¶¶¶¶Department of Gastroenterology, Army Hospital (R & R), New Delhi 110010, India

Globally, around 150 million people are infected with hepatitis C virus (HCV). India contributes a large proportion of this HCV burden. The prevalence of HCV infection in India is estimated at between 0.5% and 1.5%. It is higher in the northeastern part, tribal populations and Punjab, areas which may represent HCV hotspots, and is lower in western and eastern parts of the country. The predominant modes of HCV transmission in India are blood transfusion and unsafe therapeutic injections. There is a need for large field studies to better understand HCV epidemiology and identify high-prevalence areas, and to identify and spread awareness about the modes of transmission of this infection in an attempt to prevent disease transmission. (J Clin Exp Hepatol 2014;4:106–116)

Keywords: hepatitis C virus, chronic hepatitis, epidemiology
Received: 12.5.2014; *Accepted:* 13.5.2014; *Available online:* 9.6.2014
Address for correspondence: Anil C. Anand, Senior Consultant (Gastroenterology & Hepatology), Indraprastha Apollo Hospital, Sarita Vihar, Mathura Road, New Delhi 110076, India.
E-mail: anilcanand@gmail.com
[a] Coordinator, HCV Task Force. [b] Convener, HCV Task Force. [c] Members of the core group, HCV Task force. [d] List of members in alphabetical order.
Abbreviations used: CH-C: chronic hepatitis C; GRADE: Grading of Recommendations Assessment, Development and Evaluation; HCV: hepatitis C virus; HIV: human immunodeficiency virus; INASL: Indian National Association for Study of the Liver; IV: intravenous; IVDU: intravenous/injecting drug user
http://dx.doi.org/10.1016/j.jceh.2014.05.006

Hepatitis C virus (HCV) infection has an estimated global prevalence of 2%–3%, with approximately 122–185 million HCV-infected persons worldwide.[1–7] Based on prevalence of anti-HCV antibody, different areas of the world are categorized as 'high' prevalence (>3.5%), 'moderate' prevalence (1.5%–3.5%), or 'low' prevalence (<1.5%). Prevalence of HCV infection in India has been variously estimated as 0.9 and 1.9%.[8,9] Since India has one-fifth of the world's population, with either of these estimates, it would account for a large proportion of the worldwide HCV burden. Thus, it is imperative to reliably determine the burden of HCV disease in India, to identify any hotspots of this infection in the country, and to

Table 1 The 'Grading of Recommendations Assessment, Development and Evaluation (GRADE)' System for Grading Level of Evidence and Recommendations.

	Grade	Criteria
Strength of recommendation	Strong [1]	Factors influencing the strength of the recommendation included the quality of the evidence, presumed patient-important outcomes and cost
	Weak [2]	Variability in preferences and values, or more uncertainty. Recommendation is made with less certainty, higher cost or resource consumption
Quality of evidence	High [A]	Further research is unlikely to change confidence in the estimate of the clinical effect
	Moderate [B]	Further research may change confidence in the estimate of the clinical effect
	Low [C]	Further research is very likely to impact confidence on the estimate of clinical effect
	Very Low [D]	Very low quality — any estimate of effect is very uncertain

understand the risk factors associated with transmission of this infection. This would also allow appropriate choice and targeting of efforts to prevent the spread of this disease, and thereby reduce the burden of chronic liver disease in the country.

India does not have a national or regional registry for HCV infection. This review is therefore based on published reports from India as well as data collected by the Indian Association for Study of the Liver (INASL) Task Force on HCV; the latter include data collected from hepatologists, blood banks in northeastern India, thalassemia units and from an online data registry created specifically for this purpose.[10]

The available evidence and recommendations were graded based on the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) system for evaluating evidence.[11] In this system, quality of evidence is rated as A-D and the recommendations as 1 or 2 (Table 1).

EPIDEMIOLOGY OF HEPATITIS C VIRUS IN INDIA

Population-based studies on prevalence of HCV infection in India are scarce. Most of the available data on the issue thus are based on blood bank screening, which may not be a reliable indicator of the true infection rate. The data from these studies show wide geographic variations, which may represent a true variation in prevalence due to differences in socio-economic status or cultural and healthcare practices in different regions, or variations in donor populations studied or test kits used for screening.

Population Studies

The population-based studies have mostly been from rural and tribal populations, often from very restricted geographical areas. In addition, these are limited by use of flawed sampling techniques, and small sample sizes; thus, data from these studies are quite likely to be non-representative of the true prevalence of HCV in the particular region or of the country.

In a good-quality field study, Chowdhury et al[12] assessed the prevalence of anti-HCV antibodies in 9 villages in Birbhum district of West Bengal. Of the 3579 individuals who were randomly selected from among 10,737 inhabitants of these villages, 2973 agreed to participate. Anti-HCV seroprevalence in these subjects was 0.87%, with the highest rate recorded in those aged >60 years.

In a study of 5258 subjects from Mullanpur, Punjab, with a mixed urban and rural population, Sood et al[13] reported anti-HCV prevalence of 5.2%, with the highest rate in the 40–60 year age group and significant clustering within families. In another study from the neighboring state of Haryana, Sachdeva et al[14] screened 1,50,000 residents of Fatehabad district for anti-HCV and found a population prevalence of 1%; in addition, they screened a select group of 7114 persons who were at a high risk of HCV (high risk behavior or high risk exposure), had history of prior jaundice or voluntarily came for screening. They found a seroprevalence of 21% [1505/7114].

Singh et al[15] screened 22666 trainees of Indian Armed Forces in 25 training centers selected by multistage random sampling, giving equal representation to all regions of India. They found an anti-HCV point prevalence of only 0.44%; they explained this low rate on exclusion of those who may be at risk for HCV infection from recruitment as military trainees.

In a study from rural Maharashtra (n = 1054), Chadha et al[16] reported a prevalence rate of only 0.09%. In a recent HCV screening camp for general public in Puducherry, only 2 of 978 (0.2%) persons tested positive for HCV.[17] In Hyderabad, prevalence of HCV in similar gastroenterology camps (n = 704) was 1.4%.[18]

Studies in Tribal Populations

There are a few studies from tribal populations in India. In these, prevalence of anti-HCV antibody was found to be