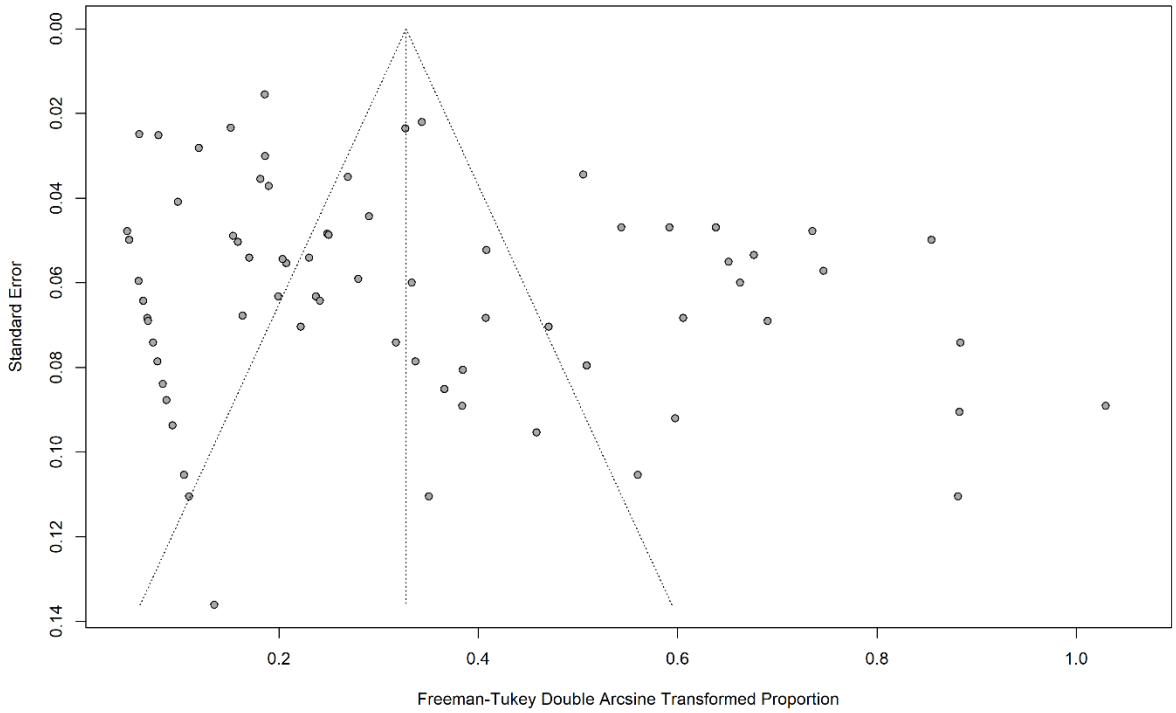
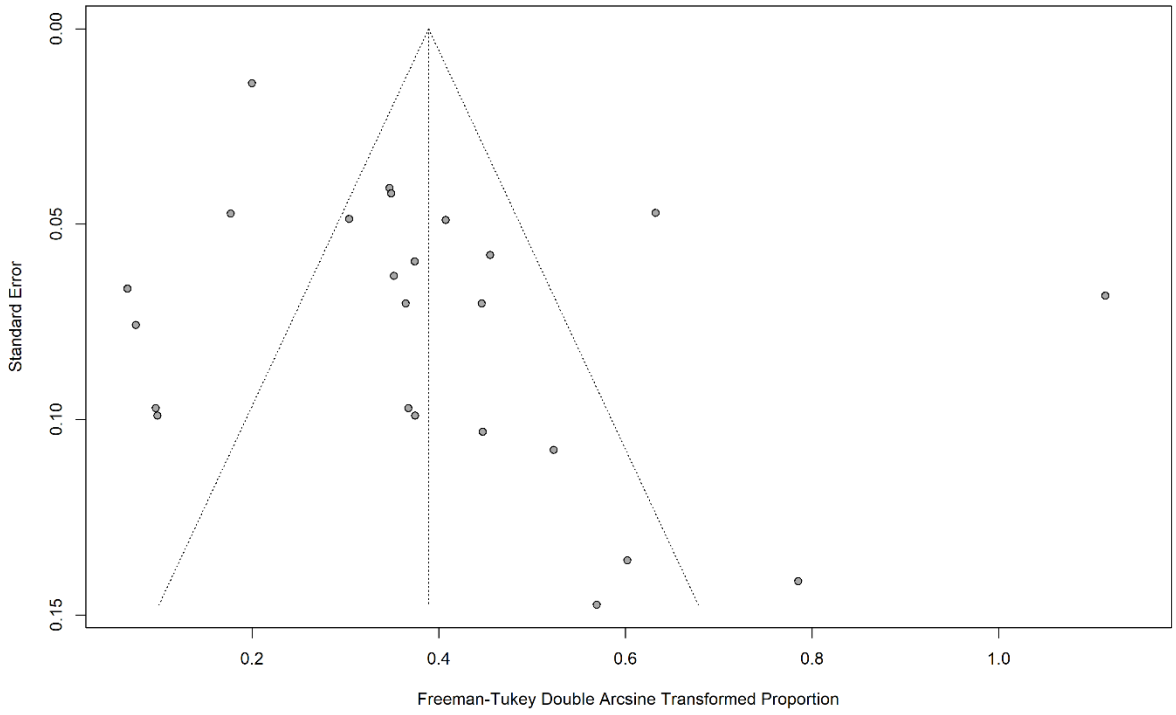
Supplementary Figure 1. The pooled global prevalence of seronegative occult hepatitis C virus infection

Supplementary Figure 2. Funnel chart for publications of the global prevalence of seronegative occult hepatitis C.



P Egger = 0.006

Supplementary Figure 3. Funnel chart for publications of the global prevalence of seropositive occult hepatitis C.



P Egger = 0.017

Supplementary Table 1. Preferred reporting items for systematic reviews and meta-analyses checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	7-8
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	8
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	9
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	9
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	9-10
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Appendix
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	10
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	10

Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	10
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	11
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	11-12
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	11-12

Section/topic	**#**	**Checklist item**	**Reported on page #**
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	12
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	12
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	12
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	13
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	13
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	13
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	13-16
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	13
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	13-16
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	17

Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	19-20
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	20
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	13

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

Supplementary Table 2. Items for risk of bias assessment

Hoy et al. tool for cross sectional studies	**Yes (1)/No (0)**
External validity	
1. Was the study's target population a close representation of the national population in relation to occult hepatitis C virus prevalence or case fatality rate?	**1**
2. Was the sampling frame a true or close representation of the population?	**1**
3. Was some form of random selection used to select the sample, OR was a census undertaken?	**1**
4. Was the likelihood of non-response bias minimal?	**1**
Internal validity	
5. Were data collected directly from the subjects (as opposed to a proxy)?	**1**
6. Was an acceptable case definition used in the study?	**1**
7. Was the study viral detection assay shown to have validity and reliability?	**1**
8. Was the same mode type of sample collected for all subjects?	**1**
9. Was the length of the length of the study period > 1 year?	**1**
10. Were the numerator(s) and denominator(s) for the prevalence or case fatality rate of occult hepatitis C virus appropriate?	**1**
Total score	**10**
Interpretation of the risk of bias tool • 7-10: Low risk of bias • 4-6: Moderate risk of bias • 0-3: High risk of bias	

Reference

Hoy D, Brooks P, Woolf A, Blyth F, March L, Bain C, Baker P, Smith E, Buchbinder R. Assessing risk of bias in prevalence studies: modification of an existing tool and evidence of interrater agreement. J Clin Epidemiol. 2012: 934 [PMID: 22742910

Supplementary Table 3. Main reasons of exclusion of eligible studies

N°	Author, Year	Title	Reason of exclusion
1	Al-Moslih, 2010	Occult hepatitis C virus infection among chronic liver disease patients in the United Arab Emirates.	Not possible to extract data on OCI prevalence or case fatality rate
2	Ashrafi Hafez, 2014	Molecular epidemiology of different hepatitis C genotypes in serum and peripheral blood mononuclear cells in jahrom city of iran.	No data on OCI prevalence or case fatality rate
3	Asmuth, 2018	Impact of occult HCV infection (OCI) on systemic immune activation after DAA therapy.	No baseline data for longitudinal study
4	Baré, 2010	Presence of HCV mixed-genotype infection; association with HIV coinfection.	No data on OCI prevalence or case fatality rate
5	Barril, 2009	Evidence of occult hepatitis C virus infection in hemodialysis patients.	Case report
6	Barril, 2013	Importance of detection of antibodies to HCV core among anti-HCV screening negative hemodialysis patients at risk of occult HCV infection.	No data on OCI prevalence or case fatality rate
7	Bartolome, 2011	Comparison of IL28-B polymorphism among patients with occult and chronic HCV infection.	Selection of study participants with already OCI result known
8	Bartolomé, 2009	Diagnosis of occult HCV infection without performing a liver biopsy.	Selection of study participants with already OCI result known
9	Bartolomé, 2014	Underestimation of occult hepatitis C virus infection in chronic haemodialysis and kidney transplant patients.	Comment on an article
10	Bartolomé, 2016	Interleukin-28B polymorphisms and interferon gamma inducible protein-10 serum levels in seronegative occult hepatitis C virus infection.	Selection of study participants with already OCI result known
11	Bartolomé, 2007	Ultracentrifugation of serum samples allows detection of hepatitis C virus RNA in patients with occult hepatitis C.	No data on OCI prevalence or case fatality rate
12	Bhargava, 2011	A novel FRET probe-based approach for identification, quantification, and characterization of occult HCV infections in patients with cryptogenic liver cirrhosis.	Comment on an article
13	Buckton, 2007	Emergence of occult minority genotype 2b hepatitis C infection in an HIV-1-co-infected patient treated for genotype 5a HCV infection with 48 weeks of pegylated-interferon-alpha 2b and ribavirin.	Sample size < or = 10 participants
14	Carreño, 2008	Occult hepatitis B virus and hepatitis C virus infections.	Review
15	Carreño, 2009	Hepatitis C virus replication in patients with occult hepatitis C virus infection.	Comment on an article
16	Carreño, 2004	Comparison of hepatitis C virus RNA detection in plasma, whole blood and peripheral blood mononuclear cells of patients with occult hepatitis C virus infection.	No data on OCI prevalence or case fatality rate
17	Carreño García, 2011	[Occult hepatitis C virus infection].	Review
18	Casato, 2003	Occult hepatitis C virus infection in type II mixed cryoglobulinaemia.	Case report
19	Castillo, 2009	Hepatitis C virus infection in the family setting of patients with occult hepatitis C.	No data on OCI prevalence or case fatality rate
20	Castillo, 2010	Diagnosis of occult hepatitis C without the need for a liver biopsy.	No data on OCI prevalence or case fatality rate
21	Castillo, 2011	Long-term virological follow up of patients with occult hepatitis C virus infection.	No data on OCI prevalence or case fatality rate
22	Castillo, 2005	Hepatitis C virus replicates in peripheral blood mononuclear cells of patients with occult hepatitis C virus infection.	No data on OCI prevalence or case fatality rate
23	Celli, 2018	Post-sustained viral response histologic changes and occult hepatitis C.	No data on OCI prevalence or case fatality rate
24	Chandra, 2011	Occult hepatitis B & C in HIV-infected patients.	No OCI definition

25	Chen, 2012	Occult hepatitis B and C in hemodialysis patients in a hyper-endemic area in southern Taiwan.	No data on OCI prevalence or case fatality rate
26	Comar, 2006	HBV, HCV, and TTV detection by in situ polymerase chain reaction could reveal occult infection in hepatocellular carcinoma: comparison with blood markers.	Sample size < or = 10 participants
27	Coppola, 2010	HCV replication in patients with onco-haematological diseases (OHD).	No data on OCI prevalence or case fatality rate
28	Dapena, 2013	Implementation of occult hepatitis screening in the Spanish cohort of HIV-infected pediatric patients.	No data on OCI prevalence or case fatality rate
29	Del Bello, 2019	No evidence of occult hepatitis C or E virus infections in liver-transplant patients with sustained virological response after therapy with direct acting agents.	Sample size < or = 10 participants
30	Dzekova-Vidimliski, 2008	Patterns of viraemia in haemodialysis patients with hepatitis C.	No data on OCI prevalence or case fatality rate
31	Dzekova-Vidimliski, 2016	Search for the presence of occult hepatitis C in patients with treatment-induced viral clearance using an ultrasensitive assay.	Duplicates
32	Elmasry, 2017	Detection of Occult Hepatitis C Virus Infection in Patients Who Achieved a Sustained Virologic Response to Direct-Acting Antiviral Agents for Recurrent Infection After Liver Transplantation.	Sample size < or = 10 participants
33	Fabrizi, 2008	Occult hepatitis C virus infection in hemodialysis.	Editorials
34	Gelpi, 2018	Safety of hepatitis C virus (HCV)-treated donors for kidney transplantation excluding occult HCV infection through kidney biopsies.	No data on OCI prevalence or case fatality rate
35	Gruppioni, 2009	Real-time quantitative assay for routine testing of HCV RNA in formalin-fixed, paraffin-embedded liver samples.	No data on OCI prevalence or case fatality rate
36	Hanafy, 2019	Residual hepatitis C virus in peripheral blood mononuclear cell as a risk factor for hepatocellular carcinoma after achieving a sustained virological response: a dogma or fiction.	No data on OCI prevalence or case fatality rate
37	Hooda, 2012	High prevalence of hepatitis C virus-ribonucleic acid positivity in anti-hepatitis C virus negative renal transplant patients.	No data on OCI prevalence or case fatality rate
38	Idrees, 2013	Occult hepatitis C virus infection: Detection and genotyping of HCV RNA in anti-HCV antibody and serum HCV RNA negative patients.	Duplicates
39	Ignatova, 2012	Long-term outcome in chronic hepatitis C and sustained virological response.	No baseline data for longitudinal study
40	Jain, 2008	Occult hepatitis C virus infection is more common than hepatitis B infection in maintenance hemodialysis patients.	No data on OCI prevalence or case fatality rate
41	Jucov, 2017	Prevalence of hepatic viral infection in ulcerative colitis patients in Republic of Moldova.	No data on OCI prevalence or case fatality rate
42	Kahn, 2018	CLINICAL OUTCOMES OF OCCULT HEPATITIS C INFECTION IN A POST-LIVER TRANSPLANT POPULATION.	Duplicates
43	Kamar, 2013	Hepatitis C virus and kidney disease.	Review
44	Kamar, 2009	Occult hepatitis C virus infection in hemodialysis patients: examining the evidence.	Review
45	Kamhawy, 2021	Hepatitis C viral RNA in blood mononuclear cells of patients treated with directly acting antivirals.	No baseline data for longitudinal study
46	Kar, 2012	New insights of hepatitis C virus infection from tribal dominant part of Northeast India.	No OCI definition
47	Laufer, 2008	Uncommon hepatitis B virus and/or hepatitis C virus occult infection in HIV-positive patients with abnormal level of hepatic enzyme.	No data on OCI prevalence or case fatality rate
48	Lerat, 2004	Hepatitis C virus (HCV) occult infection or occult HCV RNA detection?	Review
49	Lybeck, 2019	Long-term follow-up after cure from chronic hepatitis C virus infection shows occult hepatitis and a risk of hepatocellular carcinoma in noncirrhotic patients.	No baseline data for longitudinal study
50	Martín-Gómez, 2015	The evolution of occult Hepatitis C Virus after immunosuppression in advanced CKD patients.	Case report

51	Martín-Gómez, 2013	Acute glomerulonephritis in a patient with de novo occult HCV.	Case report
52	Medhi, 2012	New insights into hepatitis C virus infection in the tribal-dominant part of Northeast India.	No data on OCI prevalence or case fatality rate
53	Mekky, 2018	Prevalence of occult hepatitis c infection among Egyptian patients with sustained virologic response treated with sofosbuvir/daclatasvir.	Duplicates
54	Michalak, 2016	Interferon and interferon-stimulated gene expression in ciculating immune cells in persistent symptomatic and occult hepatitis C virus infections.	No data on OCI prevalence or case fatality rate
55	Michalak, 2009	Anti-HCV core antibody: a potential new marker of occult and otherwise serologically silent HCV infection.	Review
56	Mostafa A, 2013	Occult HCV in Egyptian volunteer blood donors.	Sample size < or = 10 participants
57	Mousa, 2014	Cytokine profiles and hepatic injury in occult hepatitis C versus chronic hepatitis C virus infection.	Selection of study participants with already OCI result known
58	Pardo, 2007	Comparative study between occult hepatitis C virus infection and chronic hepatitis C.	No data on OCI prevalence or case fatality rate
59	Parodi, 2008	Evidence of occult HCV genotypes in haemophilic individuals with unapparent HCV mixed infections.	No data on OCI prevalence or case fatality rate
60	Parodi, 2015	Hepatitis C virus long-term persistence in peripheral blood mononuclear cells in patients with haemophilia. Detection of occult genotype 1.	No data on OCI prevalence or case fatality rate
61	Pérez Mota, 2004	[Occult C virus infection in cryptogenic hepatitis].	Article not in English or in French
62	Petrarca, 2010	Long-term outcome of HCV-related mixed cryoglobulinemia in patients achieving sustained viral response (SVR) after antiviral therapy.	No data on OCI prevalence or case fatality rate
63	Pham, 2009	Factors influencing detection of low levels of hepatitis C virus (HCV) genome and its replication.	No baseline data for longitudinal study
64	Pham, 2012	Hepatitis C virus persistence after sustained virological response to antiviral therapy in patients with or without past exposure to hepatitis B virus.	No baseline data for longitudinal study
65	Pham, 2008	Hepatitis C virus replicates in the same immune cell subsets in chronic hepatitis C and occult infection.	No data on OCI prevalence or case fatality rate
66	Pham, 2009	Chronic hepatitis C and persistent occult hepatitis C virus infection are characterized by distinct immune cell cytokine expression profiles.	No data on OCI prevalence or case fatality rate
67	Puri, 2011	Liver dysfunction and HBV and HCV co-infection in HIV-infected patients.	No data on OCI prevalence or case fatality rate
68	Quiroga, 2016	Detection of hepatitis C virus (HCV) core–specific antibody suggests occult HCV infection among blood donors.	No data on OCI prevalence or case fatality rate
69	Quiroga, 2009	Hepatitis C virus (HCV)-specific T-cell responses are often detectable among hemodialysis patients at risk of occult HCV infection.	No data on OCI prevalence or case fatality rate
70	Quiroga, 2005	HCV-indeterminate blood donors or occult HCV infection?	Comment on an article
71	Quiroga, 2007	Serum immunoglobulin G antibodies to the GOR autoepitope are present in patients with occult hepatitis C virus (HCV) infection despite lack of HCV-specific antibodies.	No data on OCI prevalence or case fatality rate
72	Quiroga, 2010	Evaluation of antibodies to multiple core peptides in patients with occult HCV infection.	No data on OCI prevalence or case fatality rate
73	Quiroga, 2009	Identification of serologically silent occult hepatitis C virus infection by detecting immunoglobulin G antibody to a dominant HCV core peptide epitope.	No data on OCI prevalence or case fatality rate
74	Quiroga, 2006	Combined hepatitis C virus (HCV) antigen-antibody detection assay does not improve diagnosis for seronegative individuals with occult HCV infection.	No data on OCI prevalence or case fatality rate

75	Quiroga, 2009	Tracking intrafamilial spread of serologically silent occult HCV infection through humoral and cellular HCV-specific responses.	No data on OCI prevalence or case fatality rate
76	Quiroga, 2003	Cellular immune responses associated with occult hepatitis C virus infection of the liver.	No data on OCI prevalence or case fatality rate
77	Rai, 2007	Prevalence of occult hepatitis B & C in HIV patients infected through sexual transmission.	No data on OCI prevalence or case fatality rate
78	Rezaee-Zavareh, 2015	Occult hepatitis C virus infection in dialysis patients: does it need special attention?	Comment on an article
79	Rezaee-Zavareh, 2015	Screening for occult hepatitis C virus infection: Does it need special attention?	Comment on an article
80	Roque-Cuéllar, 2012	Expression of CD81, SR-BI and LDLR in lymphocytes and monocytes from patients with classic and occult hepatitis C virus infection.	No data on OCI prevalence or case fatality rate
81	Sette, 2017	Prevalence of occult hepatitis c infection in patients with glomerulopathies and chronic renal disease: A pilot study.	Full text or abstract not found
82	Taketomi, 2021	Liver Pathologic Changes After Direct-Acting Antiviral Agent Therapy and Sustained Virologic Response in the Setting of Chronic Hepatitis C Virus Infection.	No data on OCI prevalence or case fatality rate
83	Tamori, 2003	Sequencing of human-viral DNA junctions in hepatocellular carcinoma from patients with HCV and occult HBV infection.	No data on OCI prevalence or case fatality rate
84	Thongsawat, 2008	Occult hepatitis C virus infection during an outbreak in a hemodialysis unit in Thailand.	No baseline data for longitudinal study
85	Torres, 2012	Occult hepatitis B and occult hepatitis C viremia in patients with hematologic malignancies.	No data on OCI prevalence or case fatality rate
86	Toyoda, 1999	Presence of multiple genotype-specific antibodies in patients with persistent infection with hepatitis C virus (HCV) of a single genotype: evidence for transient or occult superinfection with HCV of different genotypes.	Selection of study participants with already OCI result known
87	Tu, 2009	Prevalence and incidence of hepatitis C virus in hemodialysis patients in British Columbia: Follow-up after a possible breach in hemodialysis machines.	No data on OCI prevalence or case fatality rate
88	Ward, 2013	The hidden epidemic of hepatitis C virus infection in the United States: occult transmission and burden of disease.	Review
89	Wolff, 2011	Absence of occult hepatitis B among blood donors in southern Brazil.	No data on OCI prevalence or case fatality rate
90	Wright, 1994	Hepatitis C in HIV-infected patients with and without AIDS: prevalence and relationship to patient survival.	No data on OCI prevalence or case fatality rate
91	Yakaryilmaz, 2006	Prevalence of occult hepatitis B and hepatitis C virus infections in Turkish hemodialysis patients.	No data on OCI prevalence or case fatality rate
92	Yaroslavtseva, 2016	Discordant anti-HCV results can indicate low levels of HCV RNA in donors blood.	No data on OCI prevalence or case fatality rate
93	Yaroslavtseva, 2018	Laboratory signs of occult HCV infection in blood donors and recipients.	No data on OCI prevalence or case fatality rate
94	Yaroslavtseva, 2019	[Low concentrations of hepatitis C virus RNA in serologically mild infection.].	No data on OCI prevalence or case fatality rate

Supplementary Table 4. Characteristics of included studies

Characteristics	Overall (102)	Seronegative OCI (75)	Seropositive OCI (24)	Seropositive OCI and/or Seronegative OCI (3)
Year of publication; range	1995-2021	1995-2021	2010-2020	2011-2020
Period of inclusion of participants; range	2002-2019	2002-2019	2006-2019	2018-2019
Study Design				
Case control	8 (7.8)	7 (9.3)	1 (4.2)	
Cross-sectional	94 (92.2)	68 (90.7)	23 (95.8)	3 (100.0)
Sampling				
Non probabilistic	97 (95.1)	72 (96.0)	23 (95.8)	2 (66.7)
Probabilistic	5 (4.9)	3 (4.0)	1 (4.2)	1 (33.3)
Sampling method				
Consecutive sampling	95 (93.1)	72 (96.0)	21 (87.5)	2 (66.7)
Convenience sampling	2 (2.0)		2 (8.3)	
Multistage sampling	1 (1.0)	1 (1.3)		
Simple random sampling	4 (3.9)	2 (2.7)	1 (4.2)	1 (33.3)
Setting				
Community-based	4 (3.9)	3 (4.0)	1 (4.2)	
Hospital-based	98 (96.1)	72 (96.0)	23 (95.8)	3 (100.0)
Number of sites				
Monocenter	83 (81.4)	62 (82.7)	19 (79.2)	2 (66.7)
Multicenter	19 (18.6)	13 (17.3)	5 (20.8)	1 (33.3)
Timing of samples collection				
Prospetively	100 (98.0)	73 (97.3)	24 (100.0)	3 (100.0)
Retrospectively	2 (2.0)	2 (2.7)		
Countries				
Egypt	25 (24.5)	17 (22.7)	8 (33.3)	
Iran	24 (23.5)	17 (22.7)	6 (25.0)	1 (33.3)
Spain	13 (12.8)	12 (16.0)		1 (33.3)

Characteristics	Overall (102)	Seronegative OCI (75)	Seropositive OCI (24)	Seropositive OCI and/or Seronegative OCI (3)
Italy	11 (10.8)	9 (12.0)	1 (4.2)	1 (33.3)
Germany	8 (7.8)	7 (9.3)	1 (4.2)	
United States of America	4 (3.9)		4 (16.7)	
Georgia	3 (2.9)	3 (4.0)		
China	2 (2.0)	1 (1.3)	1 (4.2)	
France	2 (2.0)	1 (1.3)	1 (4.2)	
Pakistan	2 (2.0)	1 (1.3)	1 (4.2)	
Turkey	2 (2.0)	2 (2.7)		
Australia	1 (1.0)	1 (1.3)		
Austria	1 (1.0)	1 (1.3)		
Brazil	1 (1.0)	1 (1.3)		
Malaysia	1 (1.0)	1 (1.3)		
Mexico	1 (1.0)	1 (1.3)		
Republic of Macedonia	1 (1.0)		1 (4.2)	
WHO Region				
Eastern Mediterranean	51 (50.0)	35 (46.7)	15 (62.5)	1 (33.3)
Europe	41 (40.2)	35 (46.7)	4 (16.7)	2 (66.7)
America	6 (5.9)	2 (2.7)	4 (16.7)	
Western Pacific	4 (3.9)	3 (4.0)	1 (4.2)	
UNSD Region				
Southern Asia	26 (25.5)	18 (24.0)	7 (29.2)	1 (33.3)
Northern Africa	25 (24.5)	17 (22.7)	8 (33.3)	
Southern Europe	25 (24.5)	21 (28.0)	2 (8.3)	2 (66.7)
Western Europe	11 (10.8)	9 (12.0)	2 (8.3)	
Western Asia	5 (4.9)	5 (6.7)		
Northern America	4 (3.9)		4 (16.7)	
Eastern Asia	2 (2.0)	1 (1.3)	1 (4.2)	
Central America	1 (1.0)	1 (1.3)		
Oceania	1 (1.0)	1 (1.3)		

Characteristics	Overall (102)	Seronegative OCI (75)	Seropositive OCI (24)	Seropositive OCI and/or Seronegative OCI (3)
South America	1 (1.0)	1 (1.3)		
Southeastern Asia	1 (1.0)	1 (1.3)		
Country income level				
High-income economies	40 (39.2)	31 (41.3)	7 (29.2)	2 (66.7)
Upper-middle-income economies	35 (34.3)	26 (34.7)	8 (33.3)	1 (33.3)
Lower-middle income economies	27 (26.5)	18 (24.0)	9 (37.5)	
Age range (Write NR if not reported)				
Adults	33 (32.4)	28 (37.3)	4 (16.7)	1 (33.3)
All ages	9 (8.8)	5 (6.7)	4 (16.7)	
Children	1 (1.0)	1 (1.3)		
Unclear/Not reported	59 (57.8)	41 (54.7)	16 (66.7)	2 (66.7)
Population categories				
Hemodialysis patients	25 (24.5)	23 (30.7)	1 (4.2)	1 (33.3)
Patients who achieved SVR	15 (14.7)		15 (62.5)	
Apparently healthy individuals	10 (9.8)	10 (13.3)		
Patients with abnormal liver function	13 (12.7)	12 (16.0)		1 (33.3)
HIV positive patients	8 (7.8)	6 (8.0)	2 (8.3)	
Patients with malignant diseases	5 (4.9)	5 (6.7)		
Injecting drug users	3 (2.9)	2 (2.7)	1 (4.2)	
Kidney transplant recipients	3 (2.9)	2 (2.7)		1 (33.3)
Patients with kidney diseases	3 (2.9)	3 (4.0)		
Thalassemia patients	3 (2.9)	2 (2.7)	1 (4.2)	
Blood donors	2 (2.0)	2 (2.7)		
HBV-positive patients	2 (2.0)	2 (2.7)		
HIV positive patients, Injecting drug users	2 (2.0)	1 (1.3)	1 (4.2)	
Patients with chronic hepatitis C	2 (2.0)		2 (8.3)	
Hemodialysis patients, Patients who achieved SVR	1 (1.0)	1 (1.3)		

Characteristics	**Overall (102)**	**Seronegative OCI (75)**	**Seropositive OCI (24)**	**Seropositive OCI and/or Seronegative OCI (3)**
Hemophilia patients	1 (1.0)	1 (1.3)		
HIV infected patients, Patients with abnormal liver-function	1 (1.0)	1 (1.3)		
HIV positive patients, HBV-positive patients	1 (1.0)	1 (1.3)		
Patients with chronic hepatitis C, Kidney transplant patients	1 (1.0)		1 (4.2)	
Patients with hematological disorders	1 (1.0)	1 (1.3)		
OCI diagnostic method				
Classical RT-PCR	49 (48.0)	35 (46.7)	13 (54.2)	1 (33.3)
Real-time RT-PCR	44 (43.1)	33 (44.0)	9 (37.5)	2 (66.7)
Ultrasensitive Versant TMA assay	6 (5.9)	6 (8.0)		
Unclear/Not reported	3 (2.9)	41 (54.7)	16 (66.7)	2 (66.7)
Target detected				
HCV RNA	102 (100.0)	75 (100.0)	24 (100.0)	3 (100.0)
Sample types				
Peripheral blood mononuclear cells	86 (84.3)	65 (86.7)	19 (79.2)	2 (66.7)
Liver tissue	10 (9.8)	6 (8.0)	3 (12.5)	1 (33.3)
Ultracentrifugated serum	3 (2.9)	2 (2.7)	1 (4.2)	
Liver tissue, Peripheral blood mononuclear cells	1 (1.0)		1 (4.2)	
Peripheral blood mononuclear cells, Ultracentrifugated serum	1 (1.0)	1 (1.3)		
Peripheral blood mononuclear cells, Ultracentrifuged serum	1 (1.0)	1 (1.3)		
Risk of bias				
Low risk of bias	38 (37.3)	28 (37.3)	9 (37.5)	1 (33.3)
Moderate risk of bias	64 (62.8)	47 (62.7)	15 (62.5)	2 (66.7)

Supplementary Table 5: Individual characteristics of included studies

Author	Year of publication	Study Design	Sampling	Sampling method	Setting	Number of sites	Timing of samples collection	Countries	WHO Region	UNSD Region	Country income level	Study period	Age range (Write NR if not reported)	Population categories	Type of OCI	OCI diagnostic method	Target detected	Sample types
Abd Alla	2017	Case control	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Jan/2015-Feb/2017	Adults	Apparently healthy individuals	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Abd Alla	2017	Case control	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Jan/2015-Feb/2017	Adults	Patients with chronic hepatitis C	Seropositive OCI (anti-HCV +)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Abdelaziz	2020	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Multicenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Jul/2018-May/2019	Adults	Hemodialysis patients	Seropositive OCI and/or Seronegative OCI	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Abdelmoemen	2018	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Feb/Dec-2016	Unclear/Not reported	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Abdelrahim	2016	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Multicenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Jun/2013 -Jul/2014	Unclear/Not reported	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Abdul Rahman	2019	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Malaysia	Western Pacific	Southeastern Asia	Upper-middle-income economies	Unclear/Not reported	Children	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Aboalam	2016	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Mar/2010-Mar/2015	Unclear/Not reported	Patients with chronic hepatitis C	Seropositive OCI (anti-HCV +)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Alduraywish	2020	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Multicenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Jul/2018-Jan/2019	All ages	Hemodialysis patients	Seropositive OCI (anti-HCV +)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Alduraywish	2020	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Multicenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Jul/2018-Jan/2019	All ages	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Ali	2018	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Mar/Sept-2014	Unclear/Not reported	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Ayadi	2019	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Aug/2017-Feb/2018	Unclear/Not reported	Thalassemia patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Ayadi	2019	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Mar/2017-Feb/2018	Unclear/Not reported	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Bagaglio	2019	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Italy	Europe	Southern Europe	High-income economies	2015-2018	Unclear/Not reported	Patients who achieved SVR	Seropositive OCI (anti-HCV +)	Unclear/Not reported	HCV RNA	Peripheral blood mononuclear cells
Baid-Agrawal	2011	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Germany	Europe	Western Europe	High-income economies	Unclear/Not reported	Unclear/Not reported	Apparently healthy individuals	Seronegative OCI (anti-HCV -)	Ultrasensitive Versant TMA assay	HCV RNA	Peripheral blood mononuclear cells
Baid-Agrawal	2011	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Germany	Europe	Western Europe	High-income economies	Unclear/Not reported	Unclear/Not reported	Kidney transplant recipients	Seronegative OCI (anti-HCV -)	Ultrasensitive Versant TMA assay	HCV RNA	Peripheral blood mononuclear cells
Baid-Agrawal	2014	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Germany	Europe	Western Europe	High-income economies	Aug/2009-May/2010; May/2010-Mar/2011	Unclear/Not reported	Apparently healthy individuals	Seronegative OCI (anti-HCV -)	Ultrasensitive Versant TMA assay	HCV RNA	Peripheral blood mononuclear cells
Baid-Agrawal	2014	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Germany	Europe	Western Europe	High-income economies	Aug/2009-May/2010; May/2010-Mar/2011	Unclear/Not reported	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Ultrasensitive Versant TMA assay	HCV RNA	Peripheral blood mononuclear cells
Baid-Agrawal	2014	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Germany	Europe	Western Europe	High-income economies	Aug/2009-May/2010; May/2010-Mar/2011	Unclear/Not reported	Kidney transplant recipients	Seronegative OCI (anti-HCV -)	Ultrasensitive Versant TMA assay	HCV RNA	Peripheral blood mononuclear cells
Baid-Agrawal	2010	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Multicenter	Prospetively	Germany	Europe	Western Europe	High-income economies	Unclear/Not reported	Adults	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Ultrasensitive Versant TMA assay	HCV RNA	Peripheral blood mononuclear cells
Bang	2018	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	United States of America	America	Northern America	High-income economies	Unclear/Not reported	Unclear/Not reported	Patients who achieved SVR	Seropositive OCI (anti-HCV +)	Real-time RT-PCR	HCV RNA	Liver tissue, Peripheral blood mononuclear cells
Barril	2008	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Multicenter	Prospetively	Spain	Europe	Southern Europe	High-income economies	Unclear/Not reported	Unclear/Not reported	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Barril	2010	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Spain	Europe	Southern Europe	High-income economies	Unclear/Not reported	Unclear/Not reported	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Bastani	2016	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Multicenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Feb/2015-Nov/2015	All ages	Thalassemia patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Behnava	2013	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Unclear/Not reported	Unclear/Not reported	Patients who achieved SVR	Seropositive OCI (anti-HCV +)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Bokharaei-Salim	2016	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Mar/2014-Apr/2015	All ages	HIV positive patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Bokharaei-Salim	2016	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Mar/2014-Apr/2015	All ages	HIV positive patients	Seropositive OCI (anti-HCV +)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Bokharaei-Salim	2011	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Multicenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Sep/2007-Mar/2010	Adults	Patients with abnormal liver-function	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Bozkurt	2014	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Turkey	Europe	Western Asia	Upper-middle-income economies	Unclear/Not reported	Adults	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Castillo	2009	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Spain	Europe	Southern Europe	High-income economies	Unclear/Not reported	Unclear/Not reported	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Castillo	2013	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Spain	Europe	Southern Europe	High-income economies	Unclear/Not reported	Unclear/Not reported	HBV-positive patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Liver tissue
Castillo	2012	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Spain	Europe	Southern Europe	High-income economies	Unclear/Not reported	Unclear/Not reported	Patients with kidney diseases	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells, Ultracentrifugated serum
Castillo	2014	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Spain	Europe	Southern Europe	High-income economies	Jun/2009-Jan/2012	Unclear/Not reported	Patients with kidney diseases	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Castillo	2004	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Multicenter	Prospetively	Spain	Europe	Southern Europe	High-income economies	Unclear/Not reported	Adults	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Liver tissue
Castillo	2007	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Retrospectively	Spain	Europe	Southern Europe	High-income economies	Unclear/Not reported	Unclear/Not reported	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Coppola	2011	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Italy	Europe	Southern Europe	High-income economies	Apr/2006-Nov/2007	Unclear/Not reported	Patients with malignant diseases	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
De Marco	2009	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Multicenter	Prospetively	Italy	Europe	Southern Europe	High-income economies	Unclear/Not reported	Adults	Apparently healthy individuals	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
De Marco	2012	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Italy	Europe	Southern Europe	High-income economies	Apr/2008-Sep/2009	Adults	Apparently healthy individuals	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
De Marco	2012	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Italy	Europe	Southern Europe	High-income economies	Apr/2008-Sep/2009	Adults	HBV-positive patients	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Di Martino	2011	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Italy	Europe	Southern Europe	High-income economies	Jan/2009-Apr/2009	Unclear/Not reported	HIV positive patients	Seronegative OCI (anti-HCV -)	Unclear/Not reported	HCV RNA	Peripheral blood mononuclear cells
Donyavi	2019	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Apr/2015-Aug/2018	Adults	HIV positive patients, Injecting drug users	Seropositive OCI (anti-HCV +)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Donyavi	2019	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Apr/2015-Aug/2018	Adults	HIV positive patients, Injecting drug users	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Dvir	2017	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Italy	Europe	Southern Europe	High-income economies	Nov/2012-Sep/2013	Adults	Patients with abnormal liver-function	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Liver tissue
Dzekova-Vidimliski	2018	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Germany	Europe	Western Europe	High-income economies	Unclear/Not reported	Unclear/Not reported	Hemodialysis patients, Patients who achieved SVR	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Dzekova-Vidimliski	2018	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Germany	Europe	Western Europe	High-income economies	Unclear/Not reported	Unclear/Not reported	Patients who achieved SVR	Seropositive OCI (anti-HCV +)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Dzekova-Vidimliski	2015	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Republic of Macedonia	Europe	Southern Europe	Upper-middle-income economies	Unclear/Not reported	Unclear/Not reported	Patients who achieved SVR	Seropositive OCI (anti-HCV +)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
El Shazly	2015	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Unclear/Not reported	Unclear/Not reported	Apparently healthy individuals	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Elmasry	2016	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	United States of America	America	Northern America	High-income economies	Unclear/Not reported	Unclear/Not reported	Patients who achieved SVR	Seropositive OCI (anti-HCV +)	Real-time RT-PCR	HCV RNA	Liver tissue
El-Shishtawy	2015	Case control	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	2015	Adults	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Emad Allam	2017	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Unclear/Not reported	Adults	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Eslamifar	2015	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Mar/2013-Sep/2013	Adults	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Farahani	2013	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Jan/2010-Mar/2011	Unclear/Not reported	Patients with malignant diseases	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Filippini	2012	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Italy	Europe	Southern Europe	High-income economies	Jan/2009-Apr/2011	Adults	HIV positive patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Gatserelia	2014	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Georgia	Europe	Western Asia	Upper-middle-income economies	Unclear/Not reported	Unclear/Not reported	HIV infected patients, Patients with abnormal liver-function	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Gatserelia	2014	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Georgia	Europe	Western Asia	Upper-middle-income economies	Unclear/Not reported	Unclear/Not reported	HIV positive patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Gatserelia	2014	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Georgia	Europe	Western Asia	Upper-middle-income economies	Unclear/Not reported	Unclear/Not reported	HIV positive patients, HBV-positive patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Granieri	2011	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Italy	Europe	Southern Europe	High-income economies	Unclear/Not reported	Unclear/Not reported	Patients with abnormal liver-function	Seropositive OCI and/or Seronegative OCI	Classical RT-PCR	HCV RNA	Liver tissue
Halfon	2008	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	France	Europe	Western Europe	High-income economies	Unclear/Not reported	Unclear/Not reported	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Hamdia	2010	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Unclear/Not reported	Unclear/Not reported	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Liver tissue
Helaly	2017	Case control	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Unclear/Not reported	Adults	Apparently healthy individuals	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Helaly	2017	Case control	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Unclear/Not reported	Adults	Patients with hematological disorders	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Idrees	2013	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Pakistan	Eastern Mediterranean	Southern Asia	Lower-middle income economies	Jan/2002-Dec/2009	Unclear/Not reported	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Liver tissue
Jamshidi	2020	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Multicenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Sep/2015-Feb/2019	All ages	HIV positive patients	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Jamshidi	2020	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Multicenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Sep/2015-Feb/2019	All ages	HIV positive patients	Seropositive OCI (anti-HCV +)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Jimenez	2017	Cross-sectional	Probabilistic	Simple random sampling	Hospital-based	Monocenter	Prospetively	Spain	Europe	Southern Europe	High-income economies	Unclear/Not reported	Unclear/Not reported	Kidney transplant recipients	Seropositive OCI and/or Seronegative OCI	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Kahyesh-Esfandiary	2019	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Mar/2015-Jul/2016	All ages	Thalassemia patients	Seropositive OCI (anti-HCV +)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Keyvani	2013	Cross-sectional	Probabilistic	Simple random sampling	Hospital-based	Monocenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Nov/2007-Mar/2013	Adults	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Lin	2016	Cross-sectional	Probabilistic	Simple random sampling	Hospital-based	Monocenter	Prospetively	China	Western Pacific	Eastern Asia	Upper-middle-income economies	Apr/2012-Dec/2012	Adults	Blood donors	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Lotfi	2020	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Jun/2017-Dec/2019	Unclear/Not reported	Patients with malignant diseases	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Mahmoudvand	2021	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Apr/2019-Jul/2019	Adults	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Makvandi	2014	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	2011-2012	All ages	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Martinez-Ara	2012	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Spain	Europe	Southern Europe	High-income economies	Jun/2009-Jan/2012	Adults	Patients with kidney diseases	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Martínez-Rodríguez	2018	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Multicenter	Prospetively	Mexico	America	Central America	Upper-middle-income economies	Nov/2015-Jul/2016	Adults	Blood donors	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Mashaal	2019	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Unclear/Not reported	Unclear/Not reported	Patients who achieved SVR	Seropositive OCI (anti-HCV +)	Unclear/Not reported	HCV RNA	Peripheral blood mononuclear cells
Mekky	2019	Cross-sectional	Probabilistic	Simple random sampling	Hospital-based	Multicenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Jan/2017-Dec/2017	Unclear/Not reported	Patients who achieved SVR	Seropositive OCI (anti-HCV +)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Mohamed	2019	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Unclear/Not reported	Unclear/Not reported	Patients who achieved SVR	Seropositive OCI (anti-HCV +)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Muazzam	2011	Cross-sectional	Non probabilistic	Convenience sampling	Hospital-based	Monocenter	Prospetively	Pakistan	Eastern Mediterranean	Southern Asia	Lower-middle income economies	2007-2009	Unclear/Not reported	Patients who achieved SVR	Seropositive OCI (anti-HCV +)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Nafari	2020	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Feb/2017-Jan/2018	Unclear/Not reported	Hemophilia patients	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Naghdi	2017	Cross-sectional	Probabilistic	Multistage sampling	Hospital-based	Multicenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Unclear/Not reported	Adults	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Nicot	2010	Cross-sectional	Non probabilistic	Convenience sampling	Hospital-based	Monocenter	Prospetively	France	Europe	Western Europe	High-income economies	May/2006-Dec/2008	Adults	Patients with chronic hepatitis C, Kidney transplant patients	Seropositive OCI (anti-HCV +)	Classical RT-PCR	HCV RNA	Ultracentrifugated serum
Oesterreicher	1995	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Austria	Europe	Western Europe	High-income economies	Unclear/Not reported	Adults	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Ozlem	2017	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Turkey	Europe	Western Asia	Upper-middle-income economies	Unclear/Not reported	Unclear/Not reported	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Ultracentrifugated serum
Pisaturo	2013	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Multicenter	Prospetively	Italy	Europe	Southern Europe	High-income economies	Apr/2007-Apr/2011	Adults	HIV positive patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Pisaturo	2013	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Multicenter	Prospetively	Italy	Europe	Southern Europe	High-income economies	Apr/2007-Apr/2011	Adults	Patients with malignant diseases	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Quiroga	2011	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Spain	Europe	Southern Europe	High-income economies	Unclear/Not reported	Unclear/Not reported	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Quiroga	2013	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Spain	Europe	Southern Europe	High-income economies	Unclear/Not reported	Unclear/Not reported	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Rezaee Zavareh	2014	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Jul/2012-Feb/2013	Unclear/Not reported	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Ultracentrifugated serum
Roque-Cuéllar	2011	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Spain	Europe	Southern Europe	High-income economies	Unclear/Not reported	Unclear/Not reported	Apparently healthy individuals	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Saffo	2017	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	United States of America	America	Northern America	High-income economies	Unclear/Not reported	Unclear/Not reported	Patients who achieved SVR	Seropositive OCI (anti-HCV +)	Classical RT-PCR	HCV RNA	Liver tissue
Saito	2020	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	United States of America	America	Northern America	High-income economies	Unclear/Not reported	Unclear/Not reported	Patients who achieved SVR	Seropositive OCI (anti-HCV +)	Classical RT-PCR	HCV RNA	Liver tissue
Serwah	2021	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Mar/2013-Mar/2015	Unclear/Not reported	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Sette	2019	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Brazil	America	South America	Upper-middle-income economies	Oct/2015-Apr/2017	Adults	Hemodialysis patients	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells, Ultracentrifuged serum
Shazly	2014	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Unclear/Not reported	Unclear/Not reported	Apparently healthy individuals	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Sheikh	2019	Cross-sectional	Non probabilistic	Consecutive sampling	Community-based	Monocenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Mar/2017-Jan/2018	Unclear/Not reported	Injecting drug users	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Sheikh	2019	Cross-sectional	Non probabilistic	Consecutive sampling	Community-based	Monocenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Mar/2017-Jan/2018	Unclear/Not reported	Injecting drug users	Seropositive OCI (anti-HCV +)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Sugden	2013	Case control	Non probabilistic	Consecutive sampling	Community-based	Monocenter	Retrospectively	Australia	Western Pacific	Oceania	High-income economies	Unclear/Not reported	Unclear/Not reported	Injecting drug users	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Wang	2019	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Multicenter	Prospetively	China	Western Pacific	Eastern Asia	Upper-middle-income economies	Unclear/Not reported	Unclear/Not reported	Patients who achieved SVR	Seropositive OCI (anti-HCV +)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Yaghobi	2020	Cross-sectional	Non probabilistic	Consecutive sampling	Community-based	Monocenter	Prospetively	Iran	Eastern Mediterranean	Southern Asia	Upper-middle-income economies	Unclear/Not reported	Unclear/Not reported	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Liver tissue
Yousif	2018	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Multicenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Mar/2017-Sep/2017	Adults	Patients who achieved SVR	Seropositive OCI (anti-HCV +)	Real-time RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Youssef	2012	Case control	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Jun/2010-Jun/2011	Adults	Apparently healthy individuals	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Youssef	2012	Case control	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Jun/2010-Jun/2011	Adults	Patients with malignant diseases	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Zaghloul	2010	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Unclear/Not reported	Unclear/Not reported	Patients who achieved SVR	Seropositive OCI (anti-HCV +)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells
Zaghloul	2010	Cross-sectional	Non probabilistic	Consecutive sampling	Hospital-based	Monocenter	Prospetively	Egypt	Eastern Mediterranean	Northern Africa	Lower-middle income economies	Unclear/Not reported	Unclear/Not reported	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)	Classical RT-PCR	HCV RNA	Peripheral blood mononuclear cells

Supplementary Table 6: Risk of bias assessment

Author	Year of publication	Was the study's target population a close representation of the national population in relation to OCI prevalence or CFR ?	Was the sampling frame a true or close representation of the target population?	Was some form of random selection used to select the sample, OR was acensus undertaken?	Were data collected directly from the subjects (as opposed to a proxy)?	Was an acceptable inclusion criteria definition used in the study?	Did the author calculate and respect the expected sample size?	Was the OCI detection assay shown to have reliability and validity?	Was the same mode of data collection used for all subjects?	Was the length of the study period > or = 1 year?	Were the numerator(s) and denominator(s) for the OCI prevalence/CFR appropriate?	Risk of bias	Population categories	Type of OCI
Abd Alla	2017	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Low risk of bias	Apparently healthy individuals	Seronegative OCI (anti-HCV -)
Abd Alla	2017	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Low risk of bias	Patients with chronic hepatitis C	Seropositive OCI (anti-HCV +)
Abdelaziz	2020	No	No	Yes	Yes	No	No	Yes	Yes	No	Yes	Moderate risk of bias	Hemodialysis patients	Seropositive OCI and/or Seronegative OCI
Abdelmoemen	2018	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Low risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Abdelrahim	2016	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Low risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Abdul Rahman	2019	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	Low risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Aboalam	2016	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	Patients with chronic hepatitis C	Seropositive OCI (anti-HCV +)
Alduraywish	2020	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Low risk of bias	Hemodialysis patients	Seropositive OCI (anti-HCV +)
Alduraywish	2020	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Low risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Ali	2018	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Low risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Ayadi	2019	No	No	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Moderate risk of bias	Thalassemia patients	Seronegative OCI (anti-HCV -)
Ayadi	2019	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Bagaglio	2019	No	Yes	No	Yes	Yes	No	Unclear	Yes	Yes	Yes	Moderate risk of bias	Patients who achieved SVR	Seropositive OCI (anti-HCV +)
Baid-Agrawal	2011	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Apparently healthy individuals	Seronegative OCI (anti-HCV -)
Baid-Agrawal	2011	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Kidney transplant recipients	Seronegative OCI (anti-HCV -)
Baid-Agrawal	2014	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	Apparently healthy individuals	Seronegative OCI (anti-HCV -)
Baid-Agrawal	2014	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Baid-Agrawal	2014	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	Kidney transplant recipients	Seronegative OCI (anti-HCV -)
Baid-Agrawal	2010	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Bang	2018	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Patients who achieved SVR	Seropositive OCI (anti-HCV +)
Barril	2008	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Unclear	Yes	Low risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Barril	2010	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Bastani	2016	No	Yes	Yes	Yes	No	No	Yes	Yes	No	Yes	Moderate risk of bias	Thalassemia patients	Seronegative OCI (anti-HCV -)
Behnava	2013	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Patients who achieved SVR	Seropositive OCI (anti-HCV +)
Bokharaei-Salim	2016	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	HIV positive patients	Seronegative OCI (anti-HCV -)
Bokharaei-Salim	2016	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	HIV positive patients	Seropositive OCI (anti-HCV +)
Bokharaei-Salim	2011	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	Patients with abnormal liver-function	Seronegative OCI (anti-HCV -)
Bozkurt	2014	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Castillo	2009	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Castillo	2013	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	HBV-positive patients	Seronegative OCI (anti-HCV -)
Castillo	2012	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Patients with kidney diseases	Seronegative OCI (anti-HCV -)
Castillo	2014	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Moderate risk of bias	Patients with kidney diseases	Seronegative OCI (anti-HCV -)
Castillo	2004	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Moderate risk of bias	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)
Castillo	2007	No	No	No	Yes	Yes	No	Yes	Yes	No	Yes	Moderate risk of bias	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)
Coppola	2011	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Moderate risk of bias	Patients with malignant diseases	Seronegative OCI (anti-HCV -)
De Marco	2009	No	No	No	Yes	No	No	Yes	Yes	No	Yes	Moderate risk of bias	Apparently healthy individuals	Seronegative OCI (anti-HCV -)
De Marco	2012	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Moderate risk of bias	Apparently healthy individuals	Seronegative OCI (anti-HCV -)
De Marco	2012	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Moderate risk of bias	HBV-positive patients	Seronegative OCI (anti-HCV -)
Di Martino	2011	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Moderate risk of bias	HIV positive patients	Seronegative OCI (anti-HCV -)
Donyavi	2019	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	HIV positive patients, Injecting drug users	Seropositive OCI (anti-HCV +)
Donyavi	2019	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	HIV positive patients, Injecting drug users	Seronegative OCI (anti-HCV -)
Dvir	2017	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Moderate risk of bias	Patients with abnormal liver-function	Seronegative OCI (anti-HCV -)
Dzekova-Vidimliski	2018	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Hemodialysis patients, Patients who achieved SVR	Seronegative OCI (anti-HCV -)
Dzekova-Vidimliski	2018	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Patients who achieved SVR	Seropositive OCI (anti-HCV +)
Dzekova-Vidimliski	2015	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Patients who achieved SVR	Seropositive OCI (anti-HCV +)
El Shazly	2015	No	Yes	No	Yes	Yes	No	Yes	Yes	No	No	Moderate risk of bias	Apparently healthy individuals	Seronegative OCI (anti-HCV -)
Elmasry	2016	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Patients who achieved SVR	Seropositive OCI (anti-HCV +)
El-Shishtawy	2015	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Emad Allam	2017	No	Yes	No	Yes	Unclear	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Eslamifar	2015	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Moderate risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Farahani	2013	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Moderate risk of bias	Patients with malignant diseases	Seronegative OCI (anti-HCV -)
Filippini	2012	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	HIV positive patients	Seronegative OCI (anti-HCV -)
Gatserelia	2014	No	Yes	No	Yes	Unclear	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	HIV infected patients, Patients with abnormal liver-function	Seronegative OCI (anti-HCV -)
Gatserelia	2014	No	Yes	No	Yes	Unclear	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	HIV positive patients	Seronegative OCI (anti-HCV -)
Gatserelia	2014	No	Yes	No	Yes	Unclear	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	HIV positive patients, HBV-positive patients	Seronegative OCI (anti-HCV -)
Granieri	2011	No	Yes	No	Yes	Unclear	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Patients with abnormal liver-function	Seropositive OCI and/or Seronegative OCI
Halfon	2008	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)
Hamdia	2010	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)
Helaly	2017	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Apparently healthy individuals	Seronegative OCI (anti-HCV -)
Helaly	2017	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Patients with hematological disorders	Seronegative OCI (anti-HCV -)
Idrees	2013	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)
Jamshidi	2020	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	HIV positive patients	Seronegative OCI (anti-HCV -)
Jamshidi	2020	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	HIV positive patients	Seropositive OCI (anti-HCV +)
Jimenez	2017	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Unclear	Yes	Low risk of bias	Kidney transplant recipients	Seropositive OCI and/or Seronegative OCI
Kahyesh-Esfandiary	2019	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	Thalassemia patients	Seropositive OCI (anti-HCV +)
Keyvani	2013	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)
Lin	2016	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Low risk of bias	Blood donors	Seronegative OCI (anti-HCV -)
Lotfi	2020	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	Patients with malignant diseases	Seronegative OCI (anti-HCV -)
Mahmoudvand	2021	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Moderate risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Makvandi	2014	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)
Martinez-Ara	2012	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	Patients with kidney diseases	Seronegative OCI (anti-HCV -)
Martínez-Rodríguez	2018	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Moderate risk of bias	Blood donors	Seronegative OCI (anti-HCV -)
Mashaal	2019	No	Yes	No	Yes	Yes	No	Unclear	Yes	Unclear	Yes	Moderate risk of bias	Patients who achieved SVR	Seropositive OCI (anti-HCV +)
Mekky	2019	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	Patients who achieved SVR	Seropositive OCI (anti-HCV +)
Mohamed	2019	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Patients who achieved SVR	Seropositive OCI (anti-HCV +)
Muazzam	2011	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Moderate risk of bias	Patients who achieved SVR	Seropositive OCI (anti-HCV +)

Nafari	2020	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Moderate risk of bias	Hemophilia patients	Seronegative OCI (anti-HCV -)
Naghdi	2017	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Low risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Nicot	2010	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Moderate risk of bias	Patients with chronic hepatitis C, Kidney transplant patients	Seropositive OCI (anti-HCV +)
Oesterreicher	1995	No	No	No	Yes	No	No	Yes	Yes	No	Yes	Moderate risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Ozlem	2017	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Pisaturo	2013	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Moderate risk of bias	HIV positive patients	Seronegative OCI (anti-HCV -)
Pisaturo	2013	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Moderate risk of bias	Patients with malignant diseases	Seronegative OCI (anti-HCV -)
Quiroga	2011	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Quiroga	2013	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Rezaee Zavareh	2014	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)
Roque-Cuéllar	2011	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Apparently healthy individuals	Seronegative OCI (anti-HCV -)
Saffo	2017	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	Patients who achieved SVR	Seropositive OCI (anti-HCV +)
Saito	2020	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Patients who achieved SVR	Seropositive OCI (anti-HCV +)
Serwah	2021	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Sette	2019	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	Hemodialysis patients	Seronegative OCI (anti-HCV -)
Shazly	2014	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Apparently healthy individuals	Seronegative OCI (anti-HCV -)
Sheikh	2019	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Moderate risk of bias	Injecting drug users	Seronegative OCI (anti-HCV -)
Sheikh	2019	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Moderate risk of bias	Injecting drug users	Seropositive OCI (anti-HCV +)
Sugden	2013	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Injecting drug users	Seronegative OCI (anti-HCV -)
Wang	2019	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Patients who achieved SVR	Seropositive OCI (anti-HCV +)
Yaghobi	2020	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)
Yousif	2018	No	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Moderate risk of bias	Patients who achieved SVR	Seropositive OCI (anti-HCV +)
Youssef	2012	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	Apparently healthy individuals	Seronegative OCI (anti-HCV -)
Youssef	2012	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Low risk of bias	Patients with malignant diseases	Seronegative OCI (anti-HCV -)
Zaghloul	2010	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Patients who achieved SVR	Seropositive OCI (anti-HCV +)
Zaghloul	2010	No	Yes	No	Yes	Yes	No	Yes	Yes	Unclear	Yes	Moderate risk of bias	Patients with abnormal liver function	Seronegative OCI (anti-HCV -)

Supplementary Table 7. Subgroup analyses of global prevalence of occult hepatitis C virus infections.

	Prevalence. % (95%CI)	95% Prediction interval	N Studies	N Participants	H (95%CI)	I^2 (95%CI)	P heterogeneity	P difference subtypes
Seronegative OCI								
Study Design								0.546
Case control	12.6 [2.9-26.8]	[0-69.7]	7	285	2.9 [2.2-4]	88.4 [78.5-93.7]	< 0.001	
Cross-sectional	9.3 [6.5-12.6]	[0-43.6]	68	8250	4.4 [4.1-4.8]	94.9 [94.1-95.6]	< 0.001	
Sampling								0.001
Non probabilistic	9.9 [7-13.2]	[0-46]	72	7834	4.4 [4.1-4.7]	94.7 [93.9-95.4]	< 0.001	
Probabilistic	3.1 [1-6]	[0-61.4]	3	701	1.5 [1-2.9]	57.3 [0-87.8]	0.096	
Setting								0.209
Community-based	6.6 [3.7-10.3]	[0-39.1]	3	252	1 [1-3.1]	0 [0-89.6]	0.657	
Hospital-based	9.7 [6.8-13]	[0-45]	72	8283	4.4 [4.1-4.7]	94.9 [94.1-95.6]	< 0.001	
Timing of samples collection								0.231
Prospetively	9.2 [6.5-12.3]	[0-42.7]	73	8439	4.3 [4-4.6]	94.5 [93.7-95.3]	< 0.001	
Retrospectively	27.5 [1.7-66.4]	NA	2	96	3.2 [1.7-6.1]	90.1 [63.9-97.3]	0.001	
Countries								< 0.001
Australia	10 [0.2-27.8]	NA	1	20	NA	NA	1	
Austria	1.9 [0-7.8]	NA	1	54	NA	NA	1	
Brazil	15.4 [8.6-23.6]	NA	1	91	NA	NA	1	
China	2.2 [1-3.8]	NA	1	458	NA	NA	1	
Egypt	12.8 [6.6-20.5]	[0-52.6]	17	1001	3.2 [2.6-3.8]	89.9 [85.5-93]	< 0.001	
France	0 [0-7.7]	NA	1	22	NA	NA	1	
Georgia	11.9 [0.3-33.8]	[0-100]	3	161	3.1 [1.9-5]	89.3 [71-96.1]	< 0.001	
Germany	0 [0-0.3]	[0-0.4]	7	1147	1 [1-1.9]	0 [0-70.8]	0.976	
Iran	6.3 [3.8-9.3]	[0-21]	17	2247	2.4 [1.9-3]	82.4 [73-88.6]	< 0.001	
Italy	0.8 [0.2-1.7]	[0.1-1.9]	9	905	1 [1-1.7]	0 [0-64.8]	0.545	
Malaysia	27.3 [10.4-48.1]	NA	1	22	NA	NA	1	
Mexico	3.4 [2.4-4.6]	NA	1	1037	NA	NA	1	
Pakistan	74.2 [57.1-88.3]	NA	1	31	NA	NA	1	
Spain	35.8 [29.5-42.4]	[14.8-60.2]	12	1155	2.3 [1.7-2.9]	80.3 [66.5-88.4]	< 0.001	
Turkey	1.1 [0-7]	NA	2	184	2.1 [1-4.4]	77 [0-94.8]	0.037	
WHO Region								0.96
America	8 [0.3-23.6]	NA	2	1128	4.1 [2.3-7.3]	94 [80.9-98.1]	< 0.001	
Eastern Mediterranean	10.2 [6.9-14]	[0-36.8]	35	3279	3.1 [2.7-3.5]	89.5 [86.5-91.9]	< 0.001	

	Prevalence. % (95%CI)	95% Prediction interval	N Studies	N Participants	H (95%CI)	I^2 (95%CI)	P heterogeneity	P difference subtypes
Europe	8.8 [4.1-14.8]	[0-57]	35	3628	5.4 [4.9-5.9]	96.5 [95.8-97.1]	< 0.001	
Western Pacific	9.9 [0-31.5]	[0-100]	3	500	2.9 [1.7-4.8]	88.1 [66.9-95.7]	< 0.001	
UNSD Region								< 0.001
Central America	3.4 [2.4-4.6]	NA	1	1037	NA	NA	1	
Eastern Asia	2.2 [1-3.8]	NA	1	458	NA	NA	1	
Northern Africa	12.8 [6.6-20.5]	[0-52.6]	17	1001	3.2 [2.6-3.8]	89.9 [85.5-93]	< 0.001	
Oceania	10 [0.2-27.8]	NA	1	20	NA	NA	1	
South America	15.4 [8.6-23.6]	NA	1	91	NA	NA	1	
Southeastern Asia	27.3 [10.4-48.1]	NA	1	22	NA	NA	1	
Southern Asia	8.2 [4.7-12.5]	[0-31.1]	18	2278	3.1 [2.6-3.7]	89.4 [84.8-92.6]	< 0.001	
Southern Europe	15.9 [8-25.8]	[0-70.9]	21	2060	5.4 [4.8-6.1]	96.5 [95.6-97.3]	< 0.001	
Western Asia	5.9 [0.4-15.7]	[0-55.4]	5	345	2.8 [1.9-4.1]	87.6 [73.4-94.2]	< 0.001	
Western Europe	0 [0-0.3]	[0-0.4]	9	1223	1 [1-1.7]	0 [0-64.8]	0.934	
Country income level								0.045
High-income economies	9.3 [4.1-16]	[0-59.9]	31	3303	5.6 [5.1-6.1]	96.8 [96.1-97.3]	< 0.001	
Lower-middle income economies	15.4 [8-24.6]	[0-63.2]	18	1032	3.6 [3-4.2]	92.2 [89.2-94.4]	< 0.001	
Upper-middle-income economies	6.3 [4.1-8.8]	[0-21.3]	26	4200	2.7 [2.3-3.2]	86.5 [81.4-90.2]	< 0.001	
Age range								0.01
Adults	6.5 [3.4-10.5]	[0-34.3]	28	3657	3.8 [3.4-4.4]	93.2 [91.3-94.7]	< 0.001	
Children	27.3 [10.4-48.1]	NA	1	22	NA	NA	1	
Population categories								< 0.001
Apparently healthy individuals	2.1 [0.8-3.9]	[0-7]	10	933	1.3 [1-1.8]	36.1 [0-69.5]	0.12	
Blood donors	2.9 [1.9-4.1]	NA	2	1495	1.2	32.8	0.222	
HBV-positive patients	16.8 [0-65.3]	NA	2	137	5.9 [3.7-9.5]	97.2 [92.7-98.9]	< 0.001	
Hemodialysis patients	10 [5.3-15.9]	[0-47.6]	23	2883	4.6 [4-5.2]	95.2 [93.8-96.3]	< 0.001	
Hemophilia patients	10.2 [7.6-13.2]	NA	1	450	NA	NA	1	
HIV positive patients	0.9 [0-3.9]	[0-14.7]	6	346	1.6 [1.1-2.6]	63 [10.3-84.8]	0.019	
Injecting drug users	5.7 [1.9-10.9]	NA	2	125	1	0	0.404	
Kidney transplant recipients	0.5 [0-1.4]	NA	2	543	1	0	0.685	
Patients with abnormal liver function	20.8 [8.2-36.9]	[0-86]	12	656	4.5 [3.7-5.3]	95 [92.8-96.5]	< 0.001	
Patients with hematological disorders	60 [41.8-77]	NA	1	30	NA	NA	1	
Patients with kidney diseases	31.8 [25.1-38.9]	[0-94.4]	3	313	1.3 [1-2.4]	43.2 [0-82.9]	0.172	
Patients with malignant diseases	9.4 [0-29]	[0-92.2]	5	234	3.6 [2.6-5]	92.4 [85.1-96.1]	< 0.001	
Thalassemia patients	4.1 [2-6.8]	NA	2	287	1	0	0.335	

	Prevalence. % (95%CI)	95% Prediction interval	N Studies	N Participants	H (95%CI)	I^2 (95%CI)	P heterogeneity	P difference subtypes
OCI diagnostic method								< 0.001
Classical RT-PCR	9.6 [6.2-13.5]	[0-38.5]	35	4562	3.8 [3.4-4.3]	93.2 [91.5-94.6]	< 0.001	
Real-time RT-PCR	13.3 [8.1-19.4]	[0-56.4]	33	2794	4.2 [3.8-4.7]	94.3 [92.9-95.4]	< 0.001	
Ultrasensitive Versant TMA assay	0.1 [0-0.5]	[0-0.8]	6	1134	1 [1-2]	0 [0-74.6]	0.962	
Sample types								< 0.001
Liver tissue	36.7 [13.2-63.9]	[0-100]	6	368	5 [3.9-6.4]	96 [93.5-97.6]	< 0.001	
Peripheral blood mononuclear cells	8 [5.5-10.7]	[0-36.6]	65	7828	3.9 [3.6-4.2]	93.5 [92.3-94.5]	< 0.001	
Ultracentrifugated serum	0 [0-1.2]	NA	2	135	1	0	0.728	
Seropositive OCI								
Study Design								< 0.001
Case control	34.8 [26.2-43.9]	NA	1	112	NA	NA	1	
Cross-sectional	12.4 [7.7-18.1]	[0-46.6]	26	2815	3.5 [3-4]	91.8 [89.2-93.8]	< 0.001	
Sampling								0.369
Non probabilistic	13.9 [8.1-20.8]	[0-55.1]	25	1514	3.4 [2.9-3.9]	91.2 [88.2-93.4]	< 0.001	
Probabilistic	8.4 [0.8-22.4]	NA	2	1413	4.4 [2.6-7.7]	94.9 [84.7-98.3]	< 0.001	
Setting								0.22
Community-based	23.8 [7.6-44.7]	NA	1	21	NA	NA	1	
Hospital-based	13 [7.9-19]	[0-49.5]	26	2906	3.8 [3.3-4.3]	92.9 [90.8-94.6]	< 0.001	
Countries								< 0.001
China	11.4 [6.6-17.3]	NA	1	140	NA	NA	1	
Egypt	13.1 [5.5-23]	[0-53.8]	8	1827	4 [3.1-5]	93.6 [89.7-96.1]	< 0.001	
France	0 [0-6.5]	NA	1	26	NA	NA	1	
Germany	0 [0-4]	NA	1	43	NA	NA	1	
Iran	11.2 [5.2-18.9]	[0-39.8]	7	415	2 [1.4-2.9]	75.3 [47.8-88.3]	< 0.001	
Italy	57.6 [11.2-96.9]	NA	2	85	4.6 [2.7-8]	95.3 [86.2-98.4]	< 0.001	
Pakistan	15.4 [9-23]	NA	1	104	NA	NA	1	
Republic of Macedonia	0 [0-3]	NA	1	56	NA	NA	1	
Spain	15 [9.4-21.7]	NA	1	133	NA	NA	1	
United States of America	16.1 [1-40.8]	[0-100]	4	98	2.4 [1.5-3.9]	83.3 [57.5-93.4]	< 0.001	
WHO Region								0.919
America	16.1 [1-40.8]	[0-100]	4	98	2.4 [1.5-3.9]	83.3 [57.5-93.4]	< 0.001	
Eastern Mediterranean	12.5 [7.6-18.3]	[0-40.2]	16	2346	3.1 [2.6-3.8]	89.7 [84.9-93]	< 0.001	
Europe	13.9 [0-42.5]	[0-100]	6	343	5.8 [4.6-7.2]	97 [95.3-98.1]	< 0.001	
Western Pacific	11.4 [6.6-17.3]	NA	1	140	NA	NA	1	

	Prevalence. % (95%CI)	95% Prediction interval	N Studies	N Participants	H (95%CI)	I^2 (95%CI)	P heterogeneity	P difference subtypes
UNSD Region								0.001
Eastern Asia	11.4 [6.6-17.3]	NA	1	140	NA	NA	1	
Northern Africa	13.1 [5.5-23]	[0-53.8]	8	1827	4 [3.1-5]	93.6 [89.7-96.1]	< 0.001	
Northern America	16.1 [1-40.8]	[0-100]	4	98	2.4 [1.5-3.9]	83.3 [57.5-93.4]	< 0.001	
Southern Asia	11.7 [6.2-18.4]	[0-36.4]	8	519	2 [1.4-2.8]	74.5 [48.5-87.4]	< 0.001	
Southern Europe	26.4 [1-66.9]	[0-100]	4	274	6.6 [5-8.6]	97.7 [96.1-98.6]	< 0.001	
Western Europe	0 [0-2.7]	NA	2	69	1	0	0.864	
Country income level								0.489
High-income economies	18 [3.2-39.7]	[0-94.8]	9	385	4.4 [3.6-5.5]	94.9 [92.2-96.6]	< 0.001	
Lower-middle income economies	13.3 [6.3-22.3]	[0-50.6]	9	1931	3.8 [3.1-4.8]	93.3 [89.3-95.7]	< 0.001	
Upper-middle-income economies	9.1 [4.3-15.4]	[0-34.1]	9	611	2.2 [1.6-3]	79 [60.6-88.8]	< 0.001	
Population categories								0.319
Hemodialysis patients	10.5 [0-51.8]	NA	2	133	3.2 [1.7-6.1]	90.2 [64.3-97.3]	0.001	
HIV positive patients	10.6 [3.6-20.2]	NA	2	128	1.3	36.7	0.209	
Injecting drug users	23.8 [7.6-44.7]	NA	1	21	NA	NA	1	
Kidney transplant recipients	15 [9.4-21.7]	NA	1	133	NA	NA	1	
Patients who achieved SVR	12.3 [5.8-20.6]	[0-53.5]	15	2241	4.2 [3.6-5]	94.4 [92.2-96]	< 0.001	
Patients with abnormal liver-function	31.2 [16.2-48.5]	NA	1	32	NA	NA	1	
Patients with chronic hepatitis C	23.9 [6-48.4]	NA	2	137	2.4 [1.1-4.8]	81.9 [23.5-95.7]	0.019	
Thalassemia patients	11.5 [1.6-27.2]	NA	1	26	NA	NA	1	
OCI diagnostic method								0.582
Classical RT-PCR	10.4 [4.8-17.5]	[0-45]	14	752	2.7 [2.2-3.4]	86.5 [79-91.3]	< 0.001	
Real-time RT-PCR	12.5 [7-19.2]	[0-39.2]	11	2011	2.9 [2.3-3.7]	87.9 [80.4-92.6]	< 0.001	
Sample types								0.023
Liver tissue	13.7 [1.6-32.9]	[0-98]	4	118	2.3 [1.4-3.7]	81.2 [50.9-92.8]	0.001	
Peripheral blood mononuclear cells	13.2 [7.8-19.8]	[0-50.1]	21	2771	4 [3.5-4.6]	93.8 [91.7-95.3]	< 0.001	
Ultracentrifugated serum	0 [0-6.5]	NA	1	26	NA	NA	1	

Supplementary Table 8. Univariable and multivariable meta-regression analysis of the global prevalence of seronegative and seropositive occult hepatitis C virus infection.

Virus		**Bivariate Model**				**Multivariate Model**		
	Estimate	**P-Value**	**P-Value Global**	**OR [95% CI]**	**Estimate**	**P-Value**	**OR [95% CI]**	**R2**
Seronegative OCI								**84.03 %**
Study Design			0.517					
Case control	1							
Cross-sectional	-0.055	0.517		0.95 [0.8-1.12]				
Sampling			0.329					
Non probabilistic	1							
Probabilistic	-0.119	0.329		0.89 [0.7-1.13]				
Setting			0.777					
Community-based	1							
Hospital-based	0.036	0.777		1.04 [0.81-1.33]				
Timing of samples collection			**0.107**					
Prospetively	1							
Retrospectively	0.246	**0.107**		1.28 [0.95-1.73]				
Countries			**0**					
Australia	1							
Austria	-0.187	0.357		0.83 [0.56-1.23]				
Brazil	0.058	0.772		1.06 [0.72-1.56]				
China	-0.199	0.302		0.82 [0.56-1.2]				
Egypt	0.018	0.911		1.02 [0.74-1.39]				
France	-0.246	0.261		0.78 [0.51-1.2]				
Georgia	-0.002	0.993		1 [0.71-1.4]				

Virus		Bivariate Model				Multivariate Model		
	Estimate	P-Value	P-Value Global	OR [95% CI]	Estimate	P-Value	OR [95% CI]	R2
Germany	-0.273	0.095		0.76 [0.55-1.05]				
Iran	-0.085	0.595		0.92 [0.67-1.25]				
Italy	-0.237	0.145		0.79 [0.57-1.08]				
Malaysia	0.21	0.338		1.23 [0.8-1.89]				
Mexico	-0.165	0.391		0.85 [0.58-1.24]				
Pakistan	0.679	0.001		1.97 [1.3-2.98]				
Spain	0.293	0.068		1.34 [0.98-1.83]				
Turkey	-0.225	0.208		0.8 [0.56-1.13]				
WHO Region			0.963					
America	1							
Eastern Mediterranean	0.047	0.768		1.05 [0.77-1.43]				
Europe	0.021	0.894		1.02 [0.75-1.4]				
Western Pacific	0.046	0.823		1.05 [0.7-1.57]				
UNSD Region			**0.011**					
Central America	1							
Eastern Asia	-0.034	0.899		0.97 [0.57-1.64]				
Northern Africa	0.191	0.329		1.21 [0.82-1.78]				
Oceania	0.165	0.57		1.18 [0.67-2.08]				
South America	0.222	0.416		1.25 [0.73-2.13]				
Southeastern Asia	0.374	0.194		1.45 [0.83-2.56]				
Southern Asia	0.12	0.54		1.13 [0.77-1.65]				
Southern Europe	0.236	0.225		1.27 [0.86-1.86]				
Western Asia	0.078	0.71		1.08 [0.72-1.63]				
Western Europe	-0.094	0.641		0.91 [0.61-1.35]				
Country income level			**0.106**					
High-income economies	1				1			

Virus		**Bivariate Model**				**Multivariate Model**		
	Estimate	**P-Value**	**P-Value Global**	**OR [95% CI]**	**Estimate**	**P-Value**	**OR [95% CI]**	**R2**
Lower-middle income economies	0.087	0.168		1.09 [0.96-1.23]	0.121	**0.0444**	1.13 [1-1.27]	
Upper-middle-income economies	-0.051	0.365		0.95 [0.85-1.06]	-0.0238	0.7689	0.98 [0.83-1.14]	
Age range			**0.157**					
Adults	1				1			
Children	0.287	0.157		1.33 [0.9-1.98]	0.5003	**0.0004**	1.65 [1.25-2.17]	
Population categories			**0**					
Apparently healthy individuals	1							
Blood donors	-0.013	0.927		0.99 [0.75-1.3]				
HBV-positive patients	0.242	0.101		1.27 [0.95-1.7]				
Hemodialysis patients	0.148	0.042		1.16 [1.01-1.34]				
Hemophilia patients	0.145	0.449		1.16 [0.79-1.68]				
HIV positive patients	-0.047	0.636		0.95 [0.79-1.16]				
Injecting drug users	0.112	0.462		1.12 [0.83-1.51]				
Kidney transplant recipients	-0.093	0.516		0.91 [0.69-1.21]				
Patients with abnormal liver function	0.307	0		1.36 [1.15-1.6]				
Patients with hematological disorders	0.701	0.001		2.02 [1.34-3.04]				
Patients with kidney diseases	0.422	0.001		1.53 [1.2-1.94]				
Patients with malignt diseases	0.142	0.186		1.15 [0.93-1.42]				
Thalassemia patients	0.037	0.797		1.04 [0.78-1.38]				
OCI diagnostic method			**0.001**					
Classical RT-PCR	1				1			
Real-time RT-PCR	0.056	0.228		1.06 [0.97-1.16]	-0.1605	**0.0107**	0.85 [0.75-0.96]	
Ultrasensitive Versant TMA assay	-0.254	0.002		0.78 [0.66-0.91]	-0.1965	0.0744	0.82 [0.66-1.02]	
Sample types			**0**					
Liver tissue	1				1			
Peripheral blood mononuclear cells	-0.362	0		0.7 [0.59-0.82]	-0.3732	**0.0037**	0.69 [0.54-0.89]	

Virus		Bivariate Model				Multivariate Model		
	Estimate	**P-Value**	**P-Value Global**	**OR [95% CI]**	**Estimate**	**P-Value**	**OR [95% CI]**	**R2**
Ultracentrifugated serum	-0.597	0		0.55 [0.4-0.75]				
Seropositive OCI								**46.20 %**
Study Design			**0.173**					
Case control	1							
Cross-sectional	-0.257	0.173		0.77 [0.53-1.12]	-0.295	0.06	0.74 [0.55-1.14]	
Sampling			0.516					
Non probabilistic	1							
Probabilistic	-0.097	0.516		0.91 [0.68-1.22]				
Setting			0.523					
Community-based	1							
Hospital-based	-0.141	0.523		0.87 [0.56-1.34]				
Countries			**0.011**					
China	1							
Egypt	0.033	0.862		1.03 [0.72-1.49]	-0.011	0.94	0.99 [0.73-1.34]	
France	-0.252	0.338		0.78 [0.46-1.3]	-0.252	0.26	0.78 [0.5-1.2]	
Germany	-0.273	0.286		0.76 [0.46-1.26]	-0.273	0.2	0.76 [0.5-1.16]	
Iran	0.014	0.941		1.01 [0.7-1.47]	0.011	0.95	1.01 [0.74-1.37]	
Italy	0.519	0.019		1.68 [1.09-2.59]	0.523	**0.004**	1.69 [1.18-2.42]	
Pakistan	0.058	0.815		1.06 [0.65-1.73]	0.059	0.78	1.06 [0.71-1.59]	
Republic of Macedonia	-0.283	0.265		0.75 [0.46-1.24]	-0.283	0.18	0.75 [0.5-1.14]	
Spain	0.053	0.832		1.05 [0.65-1.72]	0.053	0.8	1.05 [0.71-1.57]	
United States of America	0.076	0.708		1.08 [0.72-1.61]	0.068	0.69	1.07 [0.77-1.49]	
WHO Region			0.974					
America	1							
Eastern Mediterranean	-0.053	0.673		0.95 [0.74-1.21]				

Virus		Bivariate Model				Multivariate Model		
	Estimate	P-Value	P-Value Global	OR [95% CI]	Estimate	P-Value	OR [95% CI]	R2
Europe	-0.035	0.809		0.97 [0.73-1.28]				
Western Pacific	-0.082	0.726		0.92 [0.58-1.46]				
UNSD Region			0.296					
Eastern Asia	1							
Northern Africa	0.035	0.873		1.04 [0.67-1.59]				
Northern America	0.082	0.728		1.09 [0.68-1.73]				
Southern Asia	0.022	0.92		1.02 [0.66-1.57]				
Southern Europe	0.192	0.406		1.21 [0.77-1.91]				
Western Europe	-0.263	0.307		0.77 [0.46-1.27]				
Country income level			0.482					
High-income economies	1							
Lower-middle income economies	-0.064	0.521		0.94 [0.77-1.14]				
Upper-middle-income economies	-0.121	0.227		0.89 [0.73-1.08]				
Population categories			0.947					
Hemodialysis patients	1							
HIV positive patients	0.034	0.875		1.03 [0.68-1.58]				
Injecting drug users	0.188	0.493		1.21 [0.7-2.07]				
Kidney transplant recipients	0.067	0.794		1.07 [0.65-1.77]				
Patients who achieved SVR	0.037	0.823		1.04 [0.75-1.43]				
Patients with abnormal liver function	0.264	0.323		1.3 [0.77-2.2]				
Patients with chronic hepatitis C	0.179	0.407		1.2 [0.78-1.83]				
Thalassemia patients	0.032	0.904		1.03 [0.61-1.76]				
OCI diagnostic method			0.518					
Classical RT-PCR	1							
Real-time RT-PCR	0.043	0.518		1.04 [0.92-1.19]				
Sample types			0.403					

Virus		Bivariate Model				Multivariate Model		
	Estimate	P-Value	P-Value Global	OR [95% CI]	Estimate	P-Value	OR [95% CI]	R2
Liver tissue	1							
Peripheral blood mononuclear cells	-0.018	0.879		0.98 [0.78-1.23]				
Ultracentrifugated serum	-0.304	0.2		0.74 [0.46-1.17]				

Supplementary Text 1: Reference list of included studies on global prevalence of occult hepatitis C infection

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