

Title	Screening for Hepatitis C Virus: A Systematic Review
Agency	CADTH
Reference	Screening for hepatitis C virus: a systematic review. Ottawa: CADTH; 2017 Mar. (CADTH health technology assessment; no.144).

Aim

The objectives of this systematic review are to assess the published research evidence on the clinical effectiveness, harms, cost-effectiveness, and associated patients' preferences and values of screening for hepatitis C virus (HCV) infection in asymptomatic, non-pregnant, treatment-naïve adults; and to assess the ability of the available antibody (Ab) and antigen (Ag) screening tests to identify people in the general population with chronic HCV infection.

Conclusions and results

The review did not find any studies on the clinical effectiveness of screening that met the inclusion criteria of the review. One study was found related to harms, and one study was found related to cost-effectiveness. However, this lack of research evidence does not necessarily mean that screening would be ineffective in clinical practice.

Twenty-six studies evaluated the clinical validity of Ab and Ag screening tests. Results from studies with large sample sizes showed that Ab tests are sufficiently able to identify individuals with active hepatitis C infection (71% to 87.5% of people who tested positive using an Ab test were confirmed using polymerase chain reaction to have an active infection). Therefore, Ab tests may be acceptable as a first step in a screening pathway. There were inconsistent results observed among the Ab tests and Ag tests, and no conclusions can be made about the clinical validity of a particular test in a screening pathway.

Twelve studies were included about patient preferences and values. They showed that individuals make decisions about screening that appear reasonable and feasible within their own life situations, psychological contexts, and unique knowledge about screening and hepatitis C in general. People who were interested in screening generally want it to be convenient, initiated by the provider (e.g., offered routinely), and in a setting that offers a sense of anonymity because of the associated stigma of having hepatitis C. Patients also noted that it is important that the conversations about testing and results are of an appropriate quality and depth.

Recommendations

None

Methods

The literature search was performed by an information specialist using a peer-reviewed search strategy. Studies were considered for inclusion if results were reported for adults (at least 18-years-old) who were not pregnant, did not have symptoms of hepatitis C infection, had unknown

liver enzyme values, and had not previously received treatment for hepatitis C.

Two reviewers independently extracted data for the research questions on the frequency of harms, cost-effectiveness, and clinical validity of screening. For the question on patient preferences and values, two reviewers independently, inductively coded and captured relevant result statements from each included study. Following data extraction, for the research questions on clinical effectiveness, harms, and cost-effectiveness, two reviewers

independently assessed the quality of each selected study using an appropriate assessment tool specific to the study design. For studies on patients' preferences and values, and clinical validity of screening, one of two reviewers assessed the quality of each study using standardized criteria, depending on the study design. A second reviewer verified the assessments.

A narrative synthesis was conducted that involved presenting the results from each included study alongside important study and patient characteristics in narrative and table formats. For the question on the preferences and values related to the decision to be screened for HCV, a thematic analysis was conducted in two stages: coding and development of descriptive themes.

The quality of the body of evidence was assessed using GRADE criteria for all questions, with the exception of the question on patient preferences that used the Confidence in the Evidence from Reviews of Qualitative Research (CERQual) approach to guide the evaluation of the body of descriptive studies.

Further research/reviews required

More evidence on the clinical validity of general population screening with Ab and Ag tests is needed to form clear conclusions regarding preferred tests or testing pathways. Ideally, studies would be conducted in Canada using screening and diagnostic tests commonly used in clinical practice to screen true general population individuals identified from the community or a primary care setting, rather than a more selective population of blood donors.

Written by

CADTH, Canada