

# AB020. The role of telehealth interventions on clinical outcomes in patients with chronic hepatitis C infection: a systematic review

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**Background:** Despite the development of effective treatments and vaccines, chronic viral hepatitis remains the predominant cause of liver cirrhosis and hepatocellular carcinoma. Only 1% have adequate access to treatment globally. Telemedicine has gained wider attention during coronavirus disease (COVID-19) and has been proposed as an alternative to traditional healthcare modalities. This review examined and synthesized available data on the impact of telemedicine on health outcome and patterns of usage of healthcare services in chronic HCV patients, aiming to provide evidence for potential telehealth interventions in improving accessibility to HCV treatment.

**Methods:** Databases including PubMed and EMBASE were searched to compare the impact of telemedicine *vs.* standard care on chronic HCV patients' rates of sustained virologic response, treatment completion rates and loss to follow-up. The qualities of included studies were assessed by a mixed methods appraisal tool. Relative risk (RR) estimates were pooled by meta-analyses and stratum-specific analyses were performed to evaluate differences by nationality and telemedicine modalities.

**Results:** Twelve observational studies conducted in Canada, the United States, Australia, Taiwan and Mexico were included. Sustained virologic response rates attained in telemedicine were equivalent to that attained in traditional healthcare modalities. The pooled RR of sustained virologic response rates in participants treated by telemedicine was 0.864 [95% confidence interval (CI): 0.769–0.960]. Compared to standard modalities, chronic HCV patients

receiving telemedicine had a higher compliance rate [pooled RR of treatment completion rate: 0.541 (95% CI: 0.256–0.826)], lower dropout rate [pooled RR of loss to follow-up: 0.555 (95% CI: 0.132–0.978)]. Major barriers in standard modalities included geographic inconvenience, financial constraints, and psycho-social challenges.

**Conclusions:** Telemedicine for HCV management yields equivalent clinical outcomes to standard care, while circumventing the limitations of geographic and economic barriers. Its roles in facilitating in-between visit monitoring and promoting health empowerment have been demonstrated. Further research is yet required to determine optimal ways for telemedicine integration into routine clinical care management.

**Keywords:** Chronic hepatitis; hepatitis C; telehealth; telemedicine; digital health

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## Footnote

*Conflicts of Interest:* Both authors have no conflicts of interest to declare.

*Ethical Statement:* The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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