

# Assessing the Impact of a CME Activity on Management of Patients with PBC

Thomas Saenz<sup>1</sup>; Gregory D. Salinas, PhD<sup>2</sup>; Christa Schmidt<sup>1,3</sup>; Zobair M. Younossi, MD, MPH<sup>4,5</sup>

<sup>1</sup>Chronic Liver Disease Foundation, Parsippany, NJ; <sup>2</sup>CE Outcomes, LLC, Birmingham, AL; <sup>3</sup>International Coalition of Hepatology Educational Providers, Parsippany, NJ;

<sup>4</sup>Betty and Guy Beatty Center for Integrated Research, Inova Health System, Falls Church, VA; <sup>5</sup>Center for Outcomes Research in Liver Diseases, Washington, DC

## EDUCATIONAL OVERVIEW

The goal of *Clinical Insights into the Management of PBC* was to train hepatologists, gastroenterologists, advanced practice registered nurses, and physician assistants on the most recent advances in the management of primary biliary cholangitis (PBC).

Meetings connected expert PBC faculty to small groups (10-15 clinicians) of community clinicians.

Key learning objectives included:

- Examine current and emerging data relating to PBC diagnosis
- Develop evidence-based treatment plans for patients with PBC using the latest clinical evidence
- Identify disease-related symptoms and long-term medical management strategies to improve patient quality of life

## EDUCATIONAL REACH

Clinician learners: **748 total clinicians** who manage patients with PBC from 70 live local/regional meetings.

Participants see, on average, 5 patients per week with PBC (follow-up data). Based on 767 participating clinicians, roughly **3,740 weekly touchpoints with patients with PBC** may benefit from improved evidence-based care as a result of this program.

## ASSESSMENT OF SATISFACTION WITH ACTIVITY

Speaker was knowledgeable of subject matter: **100%**

Speaker was effective in content delivery: **98%**

Content was scientifically sound/free of bias: **99%**

Provided handouts were useful: **91%**

“[I] appreciate the educational lecture on PBC and up to date guidelines on best management for patients.”

## KNOWLEDGE ACQUISITION

Using pre/post onsite evaluations and audience-response system data, key knowledge advancement was seen.

Which of the following serologic markers is positive in 90-95% of PBC patients?

SMA	7%	1%
anti-LKMI	5%	1%
p-ANCA	7%	0%
Anti-mitochondrial antibody (AMA)	81%	97%

Which of the following is false regarding ursodeoxycholic acid (UDCA) therapy in PBC?

Dose that should be used is 13-15 mg/kg/day	4%	6%
90% of liver test improvement usually occurs within 6-9 months	16%	7%
30% treated with UDCA have an adequate response	25%	48%
All of the above	55%	39%

Obeticholic acid (OCA):

Is a farnesoid X receptor agonist	6%	7%
Reduced alkaline phosphatase and bilirubin in patients with PBC when used for 12 months	10%	4%
Is associated with dose-related pruritus	5%	2%
All of the above	79%	87%

PRE-EDUCATION (n ≥ 483) | POST-EDUCATION (n ≥ 528)

## ATTITUDES AND BARRIERS

**98%** of participants indicated that this activity enhanced their professional effectiveness in treating patients

**94%** of participants indicated that this activity will result in a change in their practice behavior

**35%** of participants indicated that they have no barriers in implementing changes learned in this education

## ASSESSMENT OF PERFORMANCE CHANGE

30-60 days after education participation, 60 participant clinicians were compared to 60 demographically-similar nonparticipant clinicians (matched on specialty, degree, and PBC patient load) with case-based surveys to assess lasting performance. As a result of participating in this educational activity, gastroenterology and hepatology clinicians are more likely than nonparticipants to provide evidence-based care, specifically in:

Ordering a diagnostic AMA for a patient presenting with classic PBC symptoms and elevated ALP in the absence of obstructive biliary symptoms and normal imaging

Serum immunoglobulins	0%	7%
MRCP	8%	8%
ANA	3%	7%
Liver biopsy	2%	3%
AMA	87%	75%

Choosing a liver biopsy for a patient presenting with features of immune overlap with elevated liver enzymes and presence of NAFLD

MRCP	5%	15%
Transient elastography	12%	15%
Bone mineral density	12%	3%
TSH level	5%	7%
Liver biopsy	67%	60%

Utilizing a GLOBE score for prognostic information in a patient with PBC after 12 months on UDCA

Symptoms at diagnosis	13%	8%
GLOBE score after 12 months on UDCA	45%	30%
Change in transient elastography at 6 months	28%	33%
NAFLD fibrosis score	8%	20%
Increased stasis on US at 12 months	2%	5%

Appropriately adding or switching to OCA for a patient who has a suboptimal response to UDCA

Increase UDCA dosage	8%	13%
Add prednisolone	5%	7%
Add OCA 10 mg/day	5%	13%
Add OCA 5 mg/day with titration to 10 mg/day	78%	55%
Switch to OCA 10 mg/day	0%	5%
Switch to OCA 5 mg/day with titration to 10 mg/day	3%	7%

PARTICIPANT (n = 60) | NONPARTICIPANT (n = 60)

## EDUCATIONAL IMPACT AND CONCLUSIONS

To understand the overall impact of the education on clinician performance, a Cohen's *d* effect size was calculated between the participant and nonparticipant groups.

Overall, with a *d* of 0.25, for every 100 clinicians exposed to this education, 18 would perform better than if they were not exposed.

When we observe only clinicians with lower PBC patient load, the effect increases. For every 100 clinicians that see few patients with PBC, 26 perform better due to this education.

Legend: PARTICIPANT (orange), NONPARTICIPANT (grey), OVERLAP (darker orange)

This program had a high reach to clinicians who manage roughly one patient with PBC per day. The content was found to be scientifically sound with little bias. The knowledge acquisition directly corresponded with lasting performance change, particularly in treatment and maintenance testing.

Further, this study shows that CME may be a valuable tool to increase clinician experience with rarer liver disease as shown by the specific impact on clinicians with lower PBC patient load.

Based off of the participant and control responses, continued education is warranted, specifically regarding selection and timing of testing and determining goals of treatment.