

Background

Nonalcoholic fatty acid liver disease (NAFLD) encompasses a broad spectrum of conditions characterized by fatty infiltration of the liver, including nonalcoholic steatohepatitis (NASH). A recent review estimated that 40% of patients who have NAFLD will progress to NASH, which can eventually lead to progressive fibrosis, cirrhosis, and its associated complications, including hepatocellular carcinoma.¹ The prevalence of NASH has been increasing and it is therefore increasingly important for clinicians and their patients to better understand this disease and potential treatment options for its management. Hassan et al concluded between 10% and 29% of NASH patients will develop cirrhosis within a 10-year period.² In the period between 2009 and 2012 compared with 1999 to 2002, there has been a 2.5-fold increase in cirrhosis associated with NASH.³ NASH is a leading indication for liver transplantation in the United States and is on a trajectory to become the most common indication by 2030.⁴ According to the findings of a 14-year UK study presented at EASL 2015, there is also a 50% higher death rate associated with NASH when compared with NAFLD.⁵ Unfortunately, there are currently no FDA-approved therapies for the treatment of NASH. For these reasons, NASH is one of the most active areas of research owing to the numbers of patients who may progress and require liver transplantation.⁶

Given the serious prognosis associated with NASH, clinicians need to be provided with up-to-date information about the disease and its management, including the role of emerging therapies and potential clinical trials in which clinicians can enroll their patients.

Objective

The objective was to evaluate the effectiveness of two NASH CME educational interventions on intent to make changes in practice by clinicians managing NASH patients, based on improved knowledge and competence.

Methods

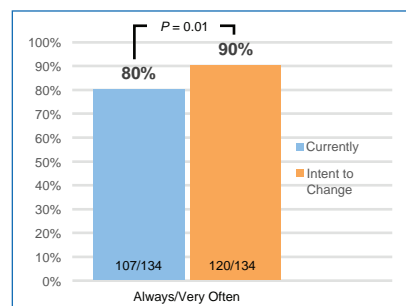
- Of 402 participants completing 2 NASH CME educational programs developed by Projects In Knowledge, this analysis focuses on self-reported responses indicating intent to implement practice change (self-assessed intent to implement learnings into practice), applying newly acquired knowledge and competence regarding NASH diagnosis and management
- The programs chosen for this analysis were 2 webcasts addressing diagnostic and treatment breakthroughs in NASH
 - NASH: Diagnostic and Treatment Breakthroughs**
 - Novel Therapeutic Targets in NASH—Translating Today's Knowledge Into Tomorrow's Practice**
- In addition to pre- and postactivity knowledge questions, clinicians were asked to self-report on practice-related actions that are important in the management of NASH patients. Using a 4-point scale ranging from always to never, they were asked about the degree to which they currently perform specific interventions in their practice (preactivity) and then self-report their intent to now perform specific interventions in their practice as a result of learnings from participation in this activity (postactivity)
 - Level 4: Measure changes in clinician's self-reported competence/intent to make changes in practice (pre-/postactivity) based on activity content, utilizing evaluation forms
 - Level 5: Self-reported write-in statements showing improved patient outcomes based on new clinical practice strategies implemented that were addressed in the CME NASH educational initiatives
- P* values were calculated using a 1-tailed Z-test for 2 populations; results were significant at a level of *P* < .05

Results

The impact of 2 NASH CME educational initiatives on improvements in clinicians' competence and intent to implement changes in practice was statistically significant for all but 1 measure (1 competence measure). Improvements in competence, pre- to postactivity, ranged from +9% to +26%. In comparing current practice behaviors (preactivity) with intended practice changes (postactivity), the intent to make changes to practice for the following ranged from 10% to 33% and were significant at a level of *P* < .05:

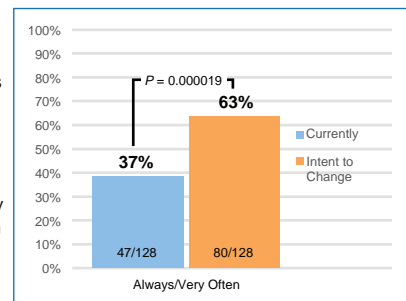
1 Evaluate Patients for Prognostic Markers of NAFLD/NASH (Program #1)

- 80% of participants self-reported that they always/very often currently assess prognostic markers of NAFLD/NASH, including elevated ALT and presence of metabolic syndrome
- After participation in this CME activity, 90% indicated that they now intend to assess these markers (improvement of 10%)



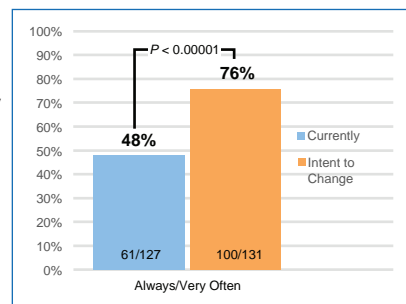
2 Perform Liver Biopsy in NAFLD Patients to Diagnose and Stage NASH (Program #1)

- Although liver biopsy is considered the "gold standard" method for the diagnosis of NASH, only 37% of participants self-reported that they always/very often perform liver biopsies to diagnose NASH
- After participation in this CME activity, 63% indicated that they now intend to always/very often perform liver biopsies to diagnose NASH (improvement of 26%); however, additional education is needed since further improvement is necessary



3 Utilize Histologic Features to Stratify Risk of Progression in NASH (Program #1)

- Histologic features may have long-term prognostic significance; fibrosis stage is an important histologic feature associated with overall survival/liver-related complications
- Only 48% of participants self-reported that they always/very often currently utilize histologic features to stratify risk; after participation in this activity, 76% now intend to utilize histologic features to stratify risk in NASH patients (improvement of 28%)



Nonalcoholic Steatohepatitis (NASH) Education Translates Science Into Practice

Elaine Rudell, CHCP, Vice President, Chief Content Officer and Managing Editor, Projects In Knowledge

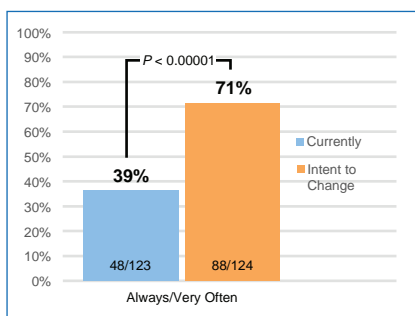
Patty Peterson, CHCP, Executive Vice President, Projects In Knowledge

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4 Consider Enrolling Appropriate NASH Patients in Clinical Trials With Emerging NASH Therapies (Program #1)

Since there are currently no FDA-approved therapies for the treatment of NASH, clinicians should consider entering NASH patients in trials with emerging therapies that may provide an opportunity for improved outcomes

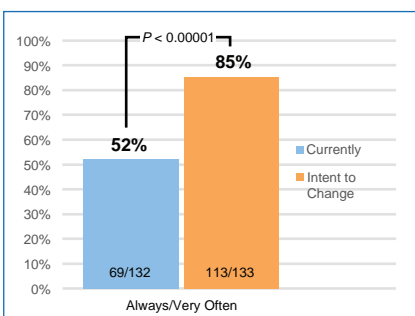
39% of participants self-reported that they always/very often currently enroll their NASH patients in clinical trials; however, after participation in this educational program, 71% indicated that they now intend to consider enrolling NASH patients in clinical trials (improvement of 32%)



5 Stay Apprised of New Phase II/III NASH Data for Potential Application in Practice (Program #1)

Today there are many emerging therapies in development with numerous trials under way to evaluate their role in NASH; clinicians are challenged to stay current on these therapies

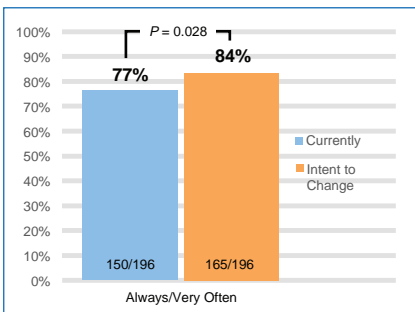
52% of participants self-reported that they always/very often currently stay abreast of emerging therapies in development and their potential role in NASH; however, after participation in this activity, 85% see the importance of remaining up-to-date and now intend to increase their awareness and understanding of emerging therapies (improvement of 33%)



6 Actively Monitor/Manage Patients at Risk of Metabolic Syndrome, and Treat Aggressively to Prevent Complications/Manage NASH (Program #2)

Since NASH patients often have metabolic syndrome (insulin resistance, obesity, and hyperlipidemia), they are at increased risk for heart disease. By treating conditions associated with NASH (eg, encourage weight loss), this also treats problems that are part of metabolic syndrome

77% of participants self-reported that they are currently monitoring/managing patients at risk for metabolic syndrome; after participation in this educational program, 84% indicated that they would now monitor/manage patients at risk for metabolic syndrome (improvement of 7%)



7 100% of Clinicians Participating in the NASH Educational Initiatives Strongly Agree/Agree That the Courses Improved Their Ability to Provide Quality Care to Their Patient

8 Clinicians' Self-Reported Patient Outcomes Resulting From Their Participation in These Programs

A few participants responded to the outcomes survey; their self-reported write-in statements describe noteworthy improvements in their patients' outcomes resulting from practice changes they implemented following the educational programs.

Participating Clinicians' Self-Reported Patient Outcomes

- ▣ Increased use of liver biopsy in patients at risk for NASH
- ▣ Monitoring of at-risk patients resulted in earlier diagnosis of NASH and stabilization of the medical course of these patients
- Confirmed fatty liver with liver biopsy
- ▣ Utilizing liver biopsy, uncovered cirrhosis, which required a treatment change
- ▣ Counseled patients with liver biopsy findings (more confident in liver biopsy use)
- ▣ DTW resolved ALT with weight loss
- ▣ Treatment of hyperlipidemia resulted in improved steatohepatitis
- ▣ Improved glycemic control in 2 poorly controlled diabetic patients with NASH resulted in resolution of NASH
- ▣ Developed list of patients qualifying for clinical trials with emerging therapies and implemented plan to enroll patients in trials

Conclusions

- Educational courses in NASH, based on gaps and needs, not only increase clinicians' knowledge and competence, but more importantly, translate into clinicians' intent to make practice changes that improve patient outcomes
- Statistically significant improvement in self-reported intent to make the following changes in practice
 - o Evaluate Patients for Prognostic Markers of NAFLD/NASH
 - o Perform Liver Biopsy in NAFLD Patients to Diagnose and Stage NASH
 - o Utilize Histologic Features to Stratify Risk of Progression in NASH
 - o Consider Enrolling Appropriate NASH Patients in Clinical Trials With Emerging NASH Therapies
 - o Stay Apprised of New Phase II/III NASH Data for Potential Application in Practice
 - o Actively Monitor/Manage Patients at Risk of Metabolic Syndrome, and Treat Aggressively to Prevent Complications/Manage NASH
- In addition, all clinicians participating in the NASH educational interventions strongly agree/agree that the courses improved their ability to provide quality care to their patients

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