

An Online Toolkit to Improve Primary Care Nurse Practitioner Awareness of Non-Alcoholic Fatty Liver Disease



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Problem

- 1/3 of adults in the United States have NAFLD
- NAFLD prevalence increased by 68% from 1998 to 2012
- Over the next two decades, NAFLD will become the leading reason for liver transplantation.
- Primary care (PC) providers are increasingly faced with diagnosis, triage, & management of NAFLD due to a limited number of available specialists.
- PC providers have knowledge gaps of NAFLD diagnosis & management.
- Nurse Practitioners (NPs) are under-represented in studies of knowledge gaps.

NAFLD overview

- Liver manifestation of metabolic syndrome – prevalence highest in obese (as high as 90%) & diabetic patients
- Two subtypes: Non-alcoholic fatty liver (NAFL) and Non-alcoholic steatohepatitis (NASH)



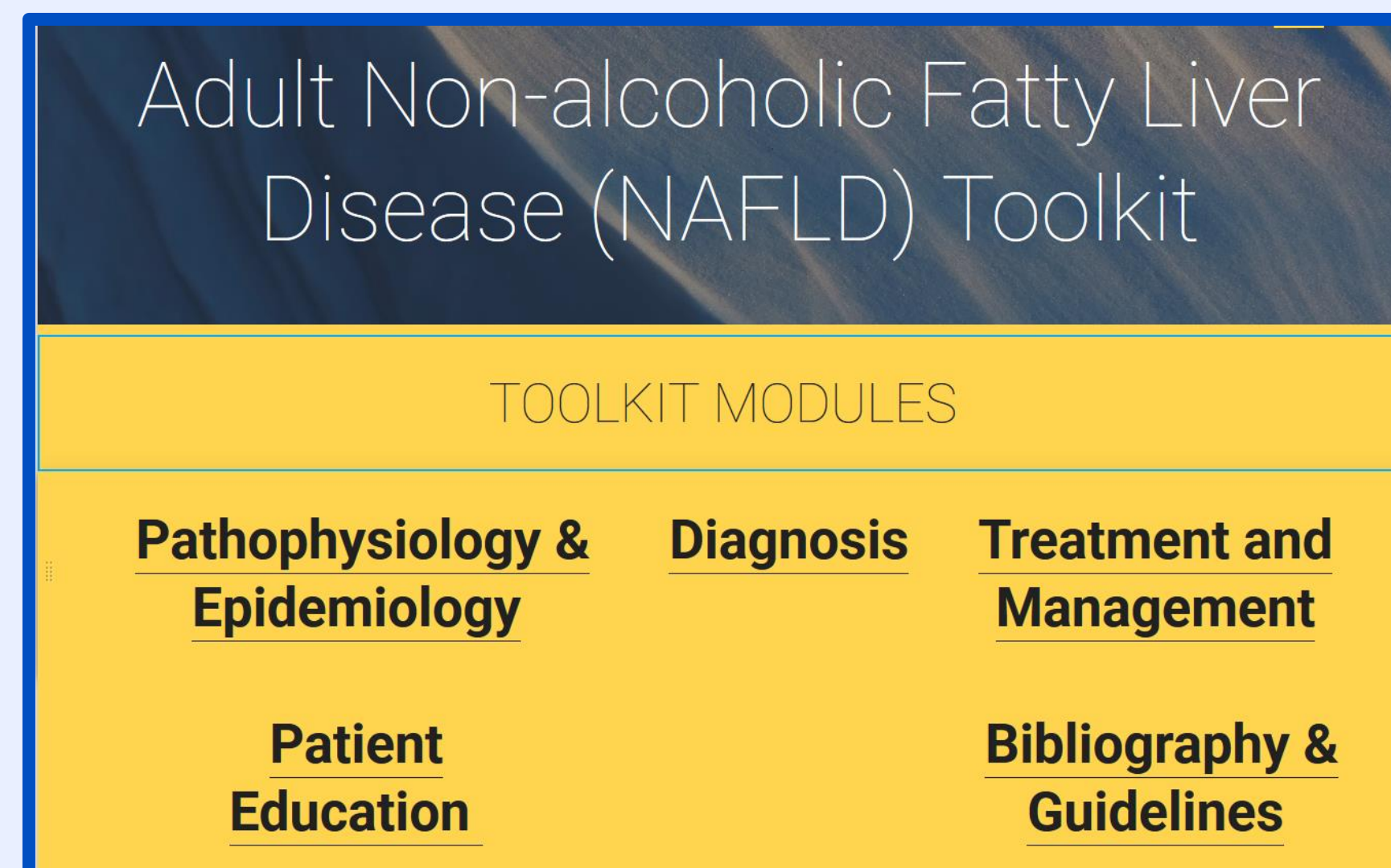
- Benign liver steatosis that occurs in patients with metabolic risk factors and absence of alcohol overuse. No inflammation or fibrosis
- Steatosis as in NAFL, but with inflammation and fibrosis. NASH can progress to cirrhosis and hepatocellular carcinoma
- Patients with NASH can be managed in primary care, unless in advanced stages (nearing cirrhosis).
- Though the gold standard to differentiate advanced fibrosis is liver biopsy, the Non-alcoholic fatty liver disease fibrosis score (NAFLD-FS) reliably approximates its accuracy.
- Current management is diet, lifestyle changes, weight loss, and management of contributing chronic illness (ie. diabetes)
- Specific liver-directed pharmacotherapies still under development.

References

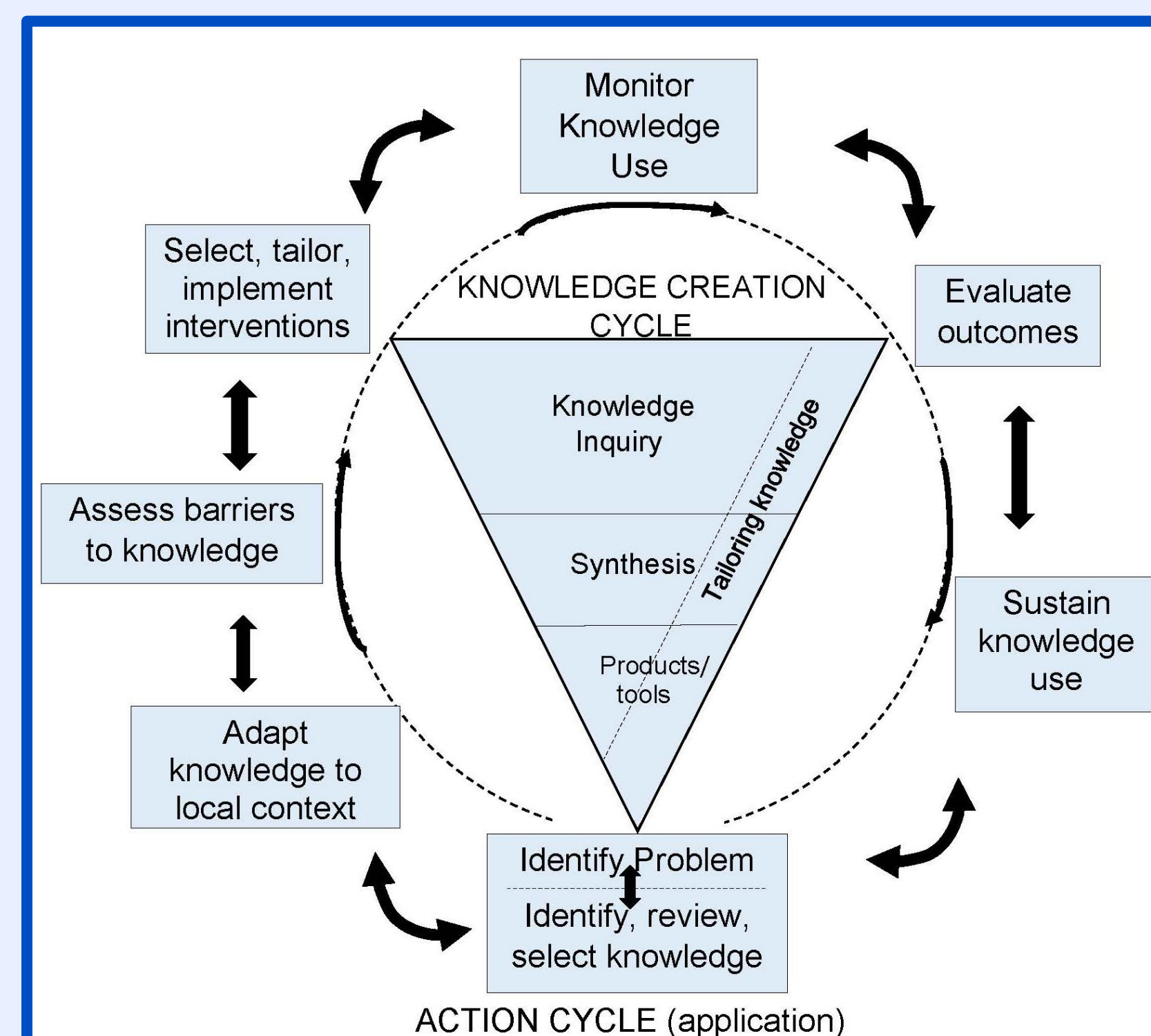
1. Agency for Healthcare Research and Quality (AHRQ) (2006, para1)
 2. Graham et al. (2006, p. 19)
 3. Patel et al. (2017)
- Full list available at <https://sites.google.com/view/naflidtoolkit>

Intervention – NAFLD Toolkit

- A toolkit is a collection of resources and information that help users engage in evidence based practice ⁽¹⁾
- Toolkits are successful in a wide range of primary care problems
- Using the Knowledge to Action Framework and development guidelines from the Agency for Healthcare Research & Quality, we developed an online toolkit for PC NPs to use at the point of care.



Knowledge to Action Framework ⁽²⁾



Evaluation Methods

- Convenience sample (n=10) of PCNPs from Missouri
- NAFLD Survey for General Practitioners ⁽³⁾ adapted for use
 - measured knowledge and actions regarding diagnosis/management of NAFLD
 - Likert scale question added asking if participants felt they had the needed knowledge to diagnose & manage NAFLD
- Administered survey pre- and post-use of toolkit.

Results

- Statistically significant improvement in knowledge and actions

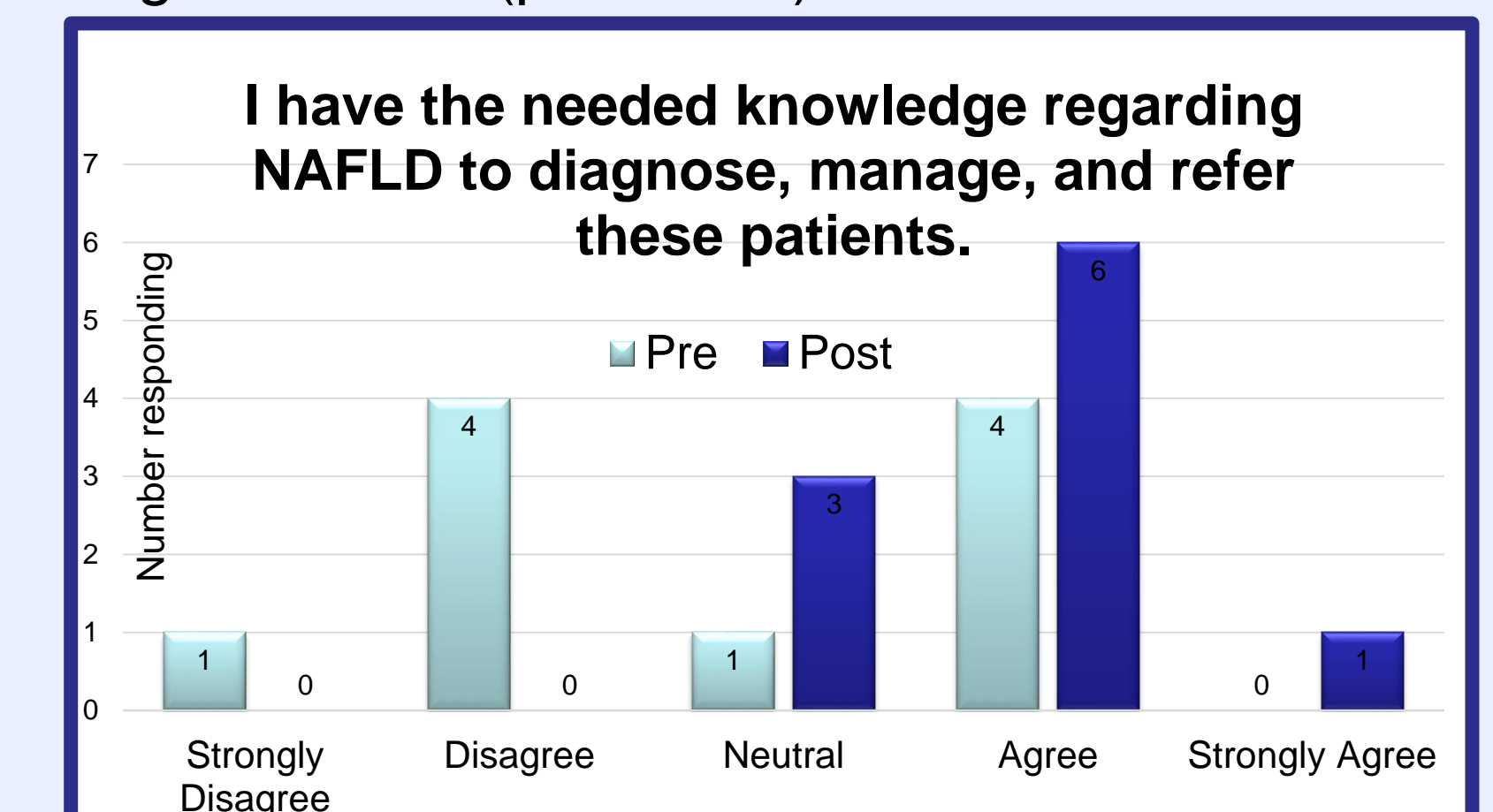
| Knowledge Questions | Pre-survey (n=10) | Post-survey (n=10) | Z* | P value |
|---------------------|-------------------|--------------------|-------|---------|
| Correct answers | | | -2.45 | 0.014 |
| Median score | 31.5 | 37 | | |
| Mean score | 29.8 | 36.5 | | |

Wilcoxon matched pairs signed-rank

| Actions/Behavior Questions | Pre-survey (n=10) | Post-survey (n=10) | Z* | P value |
|--|-------------------|--------------------|-------|---------|
| Number reporting use/will use NAFLD-FS to assess/monitor | 2 | 8 | -2.45 | 0.014 |
| Number reporting use/will use weight loss clinic referral for management | 1 | 7 | -2.45 | 0.014 |

Wilcoxon matched pairs signed-rank

- NPs felt better prepared to take care of patients with NAFLD after using the toolkit (p=0.0156)



- Qualitative comments: “very helpful...” “...good information”

Conclusion/Implications

- In this small sample, the online toolkit improved NPs knowledge, intended actions, and perceived preparedness.
- Results support expanding toolkit use nationwide and with other PC professions.
- Evaluation should be continued with a larger sample & could be expanded to patient outcomes.