## **Nedscape** EDUCATION

# DECREASING CARDIOVASCULAR RISK WITH HYPERTRIGLYCERIDEMIA TREATMENT: THE IMPACT OF MEDICAL EDUCATION ON PHYSICIAN UNDERSTANDING OF OMEGA-3 FATTY ACIDS

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### INTRODUCTION

Triglycerides (TG), although lacking the strong atherogenic potential of low-density lipoprotein cholesterol (LDL-C), are an independent risk factor for cardiovascular disease (CVD), and there is a correlation between hypertriglyceridemia and cardiovascular death, cardiovascular events, and myocardial infarction (MI). Moreover, the CV risk associated with elevated TG levels is not mitigated by the achievement of LCL-C goals among patients receiving lipid-modifying therapy.<sup>1</sup> It is not uncommon for TG levels to remain elevated despite treatment aimed at reducing LDL-C. According to the 2009-2010 National Health and Nutrition Examination Survey, 36.3% of Americans who were receiving treatment for hyperlipidemia continued to have TG levels in excess of the normal range.<sup>2</sup> Using data from various populations, another study found that a large proportion of high-risk patients continued to have elevated TG levels after achieving aggressive LDL-C goals with statin monotherapy.<sup>3</sup> Omega-3 fatty acids are one class of TG-lowering therapy that has shown promise across a variety of patient populations, but is underutilized in clinical practice.

The overall goal of the CME activity was to educate cardiologists on the role of omega-3 fatty acids in treating hypertriglyceridemia. Our objectives were to determine if an online educational intervention improved the knowledge and competence of US cardiologists in treating hypertriglyceridemia with omega-3 fatty acids and to identify remaining educational gaps.

#### METHODS

CME Activity:

- Panel discussion with leading experts on the use of omega-3 fatty acids for the treatment of hypertriglyceridemia
- Directed at cardiologists
- Posted on Medscape Education

Data Collection:

 Data were collected for all participants from March 6, 2014 to May 11, 2014 for analysis

Linked Learning Assessment:

- Compared pre-assessment to post-assessment answers to the same four questions
- Linked pre-assessment and post-assessment questions allow learners to serve as their own controls
- Pearson's chi-squared statistic was used to determine significance of pre-assessment vs post-assessment responses
- P values are shown as a measure of significance; P values less than .05 are statistically significant
- Effect sizes greater than 0.8 are large, between 0.8 and 0.4 are medium, and less than 0.4 are small

Categories of participant responses are defined in the following table.

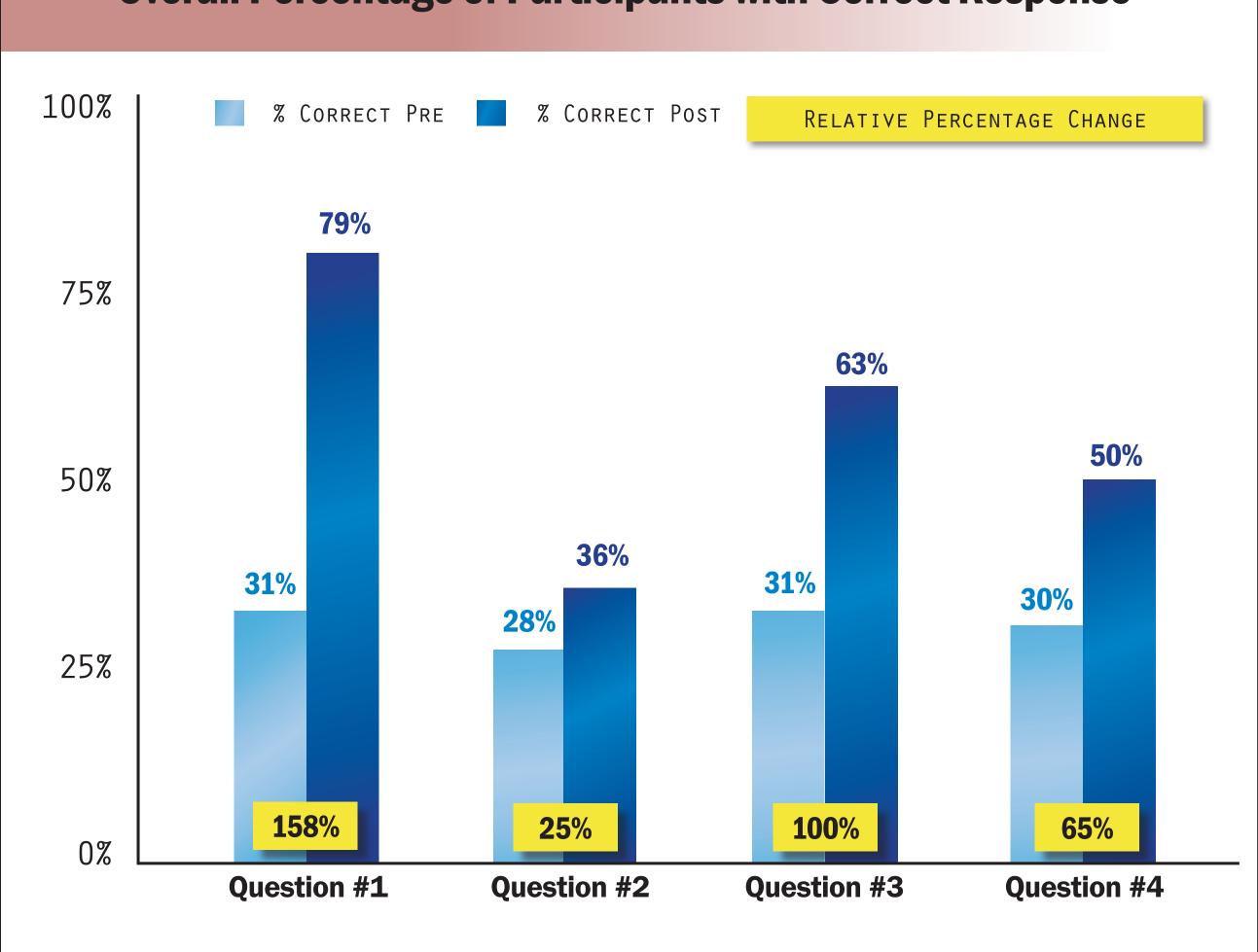
TABLE 1	Participant Response Catego
CATEGORY	DEFINITION
Improved Learners	Any incorrect response on pre-assessment, post-assessment
<b>Reinforced Learners</b>	Correct response on both pre-assessment a
Unaffected Learners	Any incorrect response on post-assessment incorrect response on post-assessment)

correct response on and post-assessment (with either correct o

### RESULTS

#### Overall:

For cardiologists who participated in the CME activity, comparison of responses to individually linked pre-assessment questions to their respective post-assessment questions demonstrates statistically significant improvement in all four questions (regarding guidelines, formulations, function, and bioavailability) (n=169; P<.05).



### **Overall Percentage of Participants with Correct Response**

Metric	Pre - Assessment	Pre - Assessment
Sample Size	169	169
Mean (Correct Answers)	1.207	2.272
Standard Error	0.069	0.076
Median (Correct Answers)	1	2
Standard Deviation	0.892	0.986
Sample Variance	0.796	0.973
Effect Size		1.065
P Value		<.05

Areas Identified for Future Education:

QUESTION 1: What are the recommendations for treating high TGs according to the 2013 ACC/AHA Guideline on the Treatment of Blood Cholesterol to Reduce Atherosclerosis Cardiovascular Risk in Adults? (Correct answer is in red.)	Pre-Assessment % (n)	Pre-Assessm % (n)
A fasting lipid panel is required when nonfasting TG>300 mg/dL	52% (88)	14% (23)
A fasting lipid panel is required when nonfasting TG>500 mg/dL	31% (52)	79% (134)*
A fasting lipid panel is required when nonfasting TG>1000 mg/dL	4% (6)	2% (4)
A fasting lipid panel is not required, all patients should be on moderate to high-dose statin therapy	14% (23)	5% (8)
		* <i>P</i> <.05

QUESTION 2: Which of the following is not accurate when describing the differences between prescription omega-3 fatty acids and omega-3 supplements? (Correct answer is in red.)	Pre-Assessment % (n)	Pre-Assessm % (n)
Both prescription and supplement forms of omega-3 fatty acids contain a mixture of docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA)	15% (26)	18% (30)
Both have been tested in clinical trials despite supplements not requiring approval by the US Food and Drug Administration (FDA)	28% (48)	36% (60)*
The quantity of omega-3 and the capsules required per day with prescription omega-3 is greater than supplement forms	27% (46)	33% (55)
Omega-3 supplements may also include other polyunsaturated fatty acids	29% (49)	14% (24)
		* <b>P&lt;.162</b>

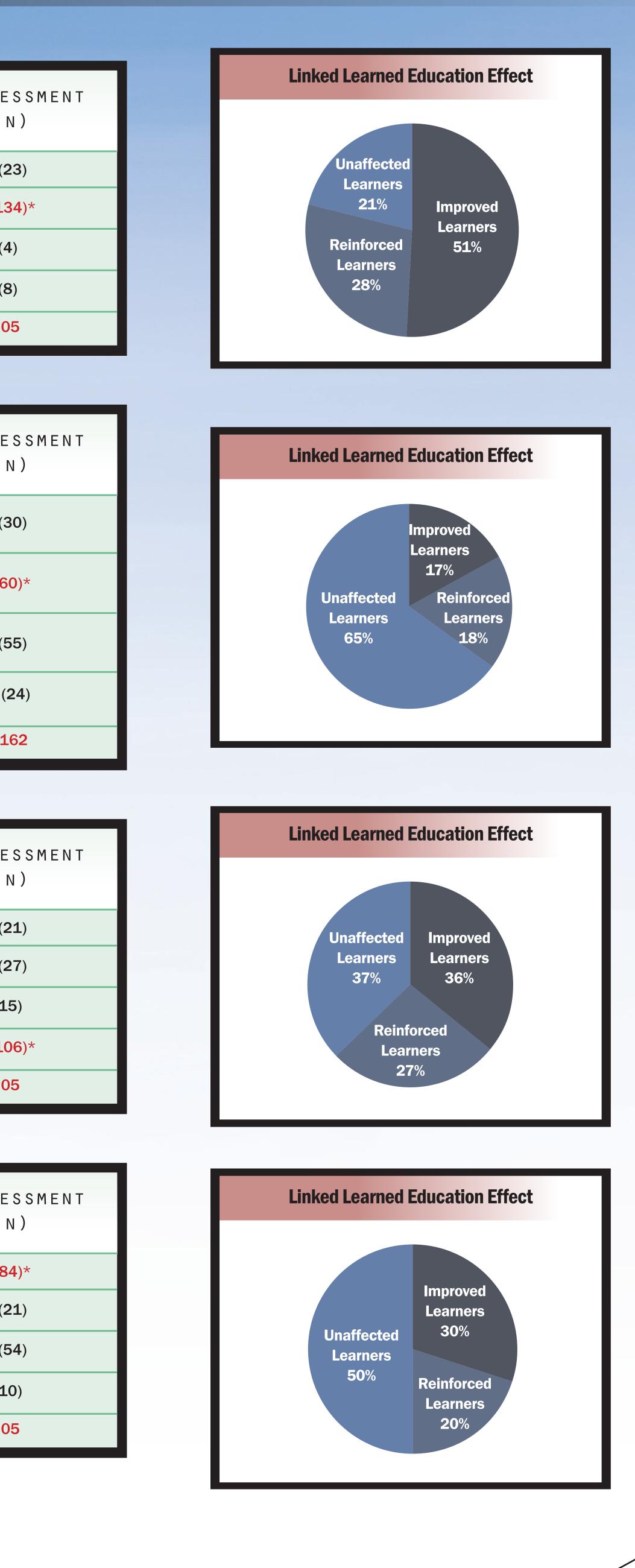
QUESTION 3: The currently approved EPA and DHA prescription agents have been shown to do which of the following? (Correct answer is in red.)	Pre-Assessment % (n)	Pre-Assessm % (n)
Lower TG levels but slightly increase non-HDL-C and LDL-C levels	25% (42)	12% (21)
Lower TG, non-HDL-C, and LDL-C levels	21% (35)	16% (27)
Lower TG and LDL-C levels but slightly increase non-HDL-C levels	23% (39)	9% (15)
Lower TG and non-HDL-C levels but slightly increase LDL-C levels	31% (53)	63% (106)*
		* <i>P</i> <.05

UESTION 4: Which of the following statements best describes the bioavailability of the in- vestigational omega-3 free fatty acid (FFA) forumulations in the ECLIPSE study relative to the ethyl ester (EE) forumulations? (Correct answer is in red.)	Pre-Assessment % (n)	Pre-Assessm % (n)
ith a low-fat diet, the FFA formulations had greater bioavailability relative to EE formulations	30% (51)	50% (84)*
ith a low-fat diet, the FFA formulations had similar bioavailability relative to EE formulations	22% (38)	12% (21)
e FFA formulations had greater bioavailability relative to EE formulations, irrespective of diet	37% (63)	32% (54)
e FFA formulations had similar bioavailability relative to EE formulations, irrespective of diet	10% (17)	6% (10)
		* <b>P&lt;.05</b>

Understanding the mechanism of action of omega-3 fatty acids

Understanding the differences between prescription and supplement forms of omega-3 fatty acids

• Understanding the pharmacodynamic differences between the different forumulations of omega-3 fatty acids



### CONCLUSIONS

This study demonstrated the success of a targeted educational intervention on improving the knowledge and competence of US cardiologists on the role of omega-3 fatty acids to treat hypertriglyceridemia and reduce CVD. However, the need for additional education was also demonstrated among cardiologists with regard to understanding the different omega-3 fatty acid formulations and their mechanisms of action in order to effectively use these agents.

#### Acknowledgements

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