



How does a required introductory integrative medicine didactic influence medical students' knowledge, attitudes, and behaviors towards the use of integrative, complementary, and alternative therapies?

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Disclosures

We have no financial or nonfinancial conflicts of interest to disclose.

Objectives

- I. Identify the prevalence and role of complementary and alternative medicine (CAM) therapies in US healthcare and in medical education.
- II. Provide faculty with a template to design a 60-minute introductory didactic focused on integrative medicine that can be implemented during medical student clinical clerkship teaching.
- III. Review research findings evaluating the effectiveness of one such course at Tulane University School of Medicine.

What is integrative medicine?

Alternative Medicine: Practices outside of conventional medicine

Complementary Medicine: Healing modalities that are used to complement conventional approaches

Integrative Medicine: The integrated practice of conventional medicine with evidence-based complementary and alternative medicine (CAM)

Background

- Based on a 2012 survey, **38% of US adults** were using a complementary and alternative medicine (CAM) therapeutic modality.
- As of 2015, approximately **half of US allopathic medical schools** offered at least one elective or required course in CAM or integrative medicine.
- **18 of the 19 existing US osteopathic** medical schools offered students mandatory training in CAM in 2004.

Background

- Learning basic principles of integrative medicine and EBM resources will allow medical students and physicians to deliver **safer and more effective care** to patients already using these modalities.
- Integrative medicine is a **medical specialty** that awards board certifications after completion of a fellowship.
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Our Study

- **Purpose:** To determine if a **brief**, 60-minute interactive didactic session impacts third and fourth year medical student **attitudes and behaviors** toward integrative medicine/CAM.
- **Methods:** A 9 question online survey was given to students the week prior to receiving the didactic and again 6 weeks later, coinciding with the conclusion of the family medicine clerkship. Administered over the course of one academic year. Received IRB approval. No incentive given.
- **Study Population:** Of 154 eligible 3rd or 4th year medical students, 81 completed the initial survey. Of these, 46 (57%) completed the follow-up survey.

Our Didactic

- Students are given required pre-course reading: Klinger B, Quick M. “Complementary/Integrative Therapies that Work: A Review of the Evidence” *Am Fam Physician*. 2016 Sep 1;94(5):369-374
- Heavy discussion orientation
- Incorporates interactive quizzes
- Students complete case-based questions requiring use of evidence-based resources introduced during the didactic, including:
 - Natural Medicine Database
 - Integrative Medicine Textbook by David Rakel, MD
 - Smart phone App: Memorial Sloan Kettering’s “About Herbs”
- *See supplementary materials for actual PowerPoint used

Our Didactic

Search > Look up a scientific, common, or brand name for any natural medicine Advanced Search

Interaction Checker

Effectiveness Checker

Nutrient Depletion

Pregnancy & Lactation

Adverse Effects

NATURAL MEDICINES

The most authoritative resource available on dietary supplements, natural medicines, and complementary alternative and integrative therapies.

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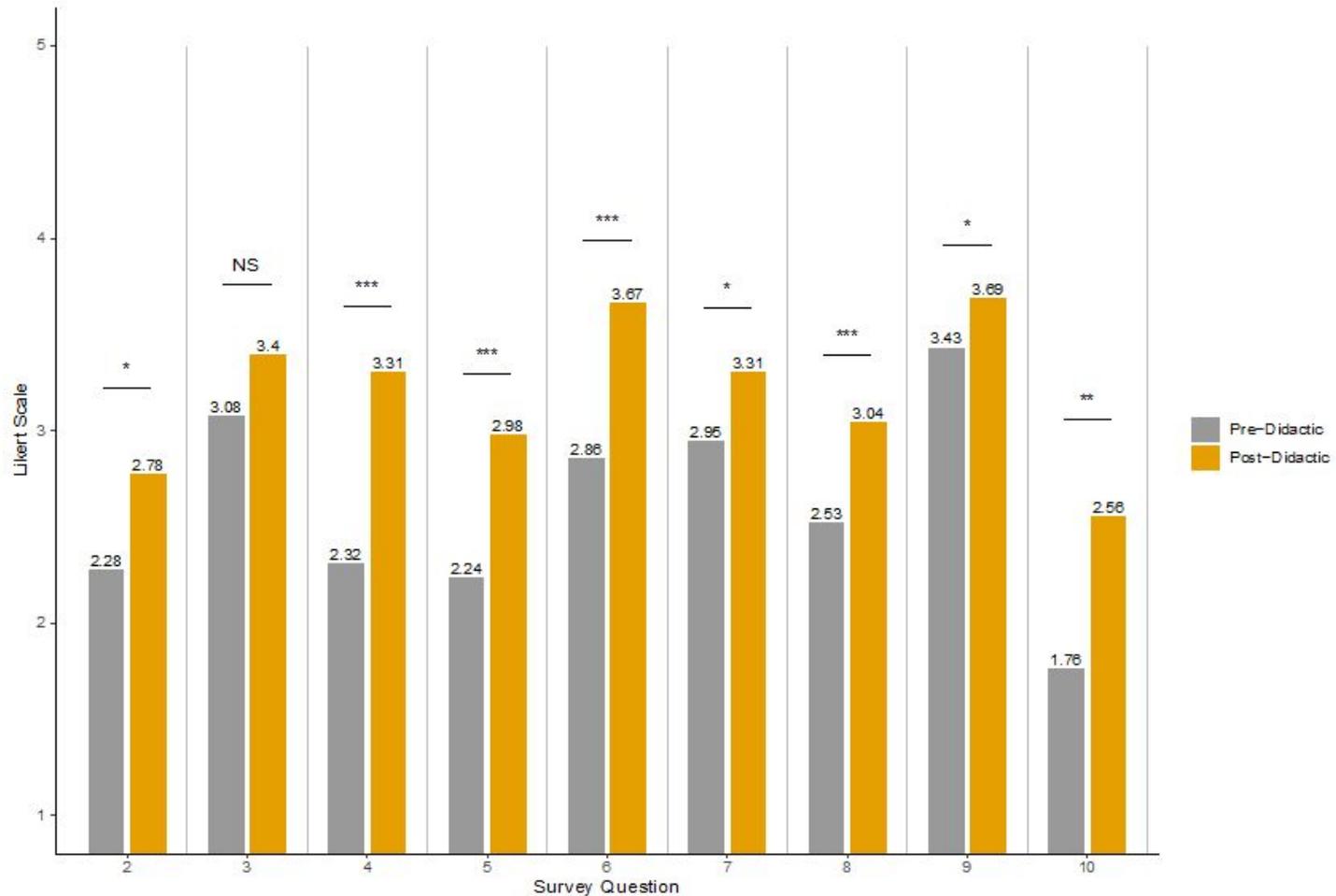
Our Didactic: Learning Objectives

- I. Define integrative medicine, complementary medicine and alternative medicine
- II. Review the scope of use of CAM therapies in the U.S.
- III. Review the 5 questions to ask before prescribing any integrative medicine therapy
- IV. Learn how to safely navigate the efficacious use of integrative medicine treatment modalities using reliable resources
- V. Review examples of evidence-based integrative medicine therapies in a case based format
- V. Practice a mind-body-medicine technique that YOU can teach to patients

Study Results

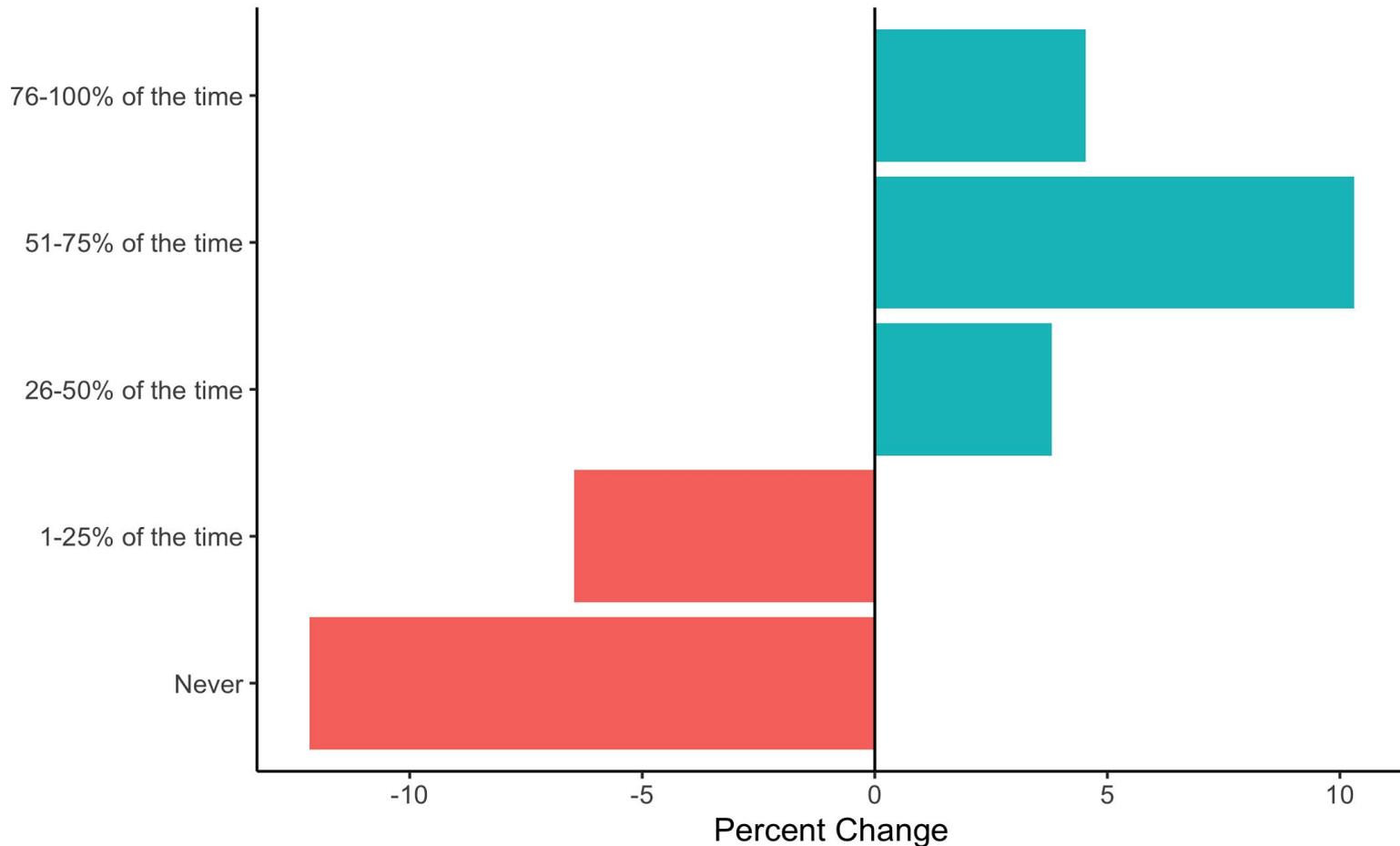
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Changes in survey responses after taking the integrative medicine didactic training. Asterisks indicate level of significance, ranging from non-significant (NS) to $p < 0.001$ (***)). Bars represent the mean Likert Scale \pm SE for each question.



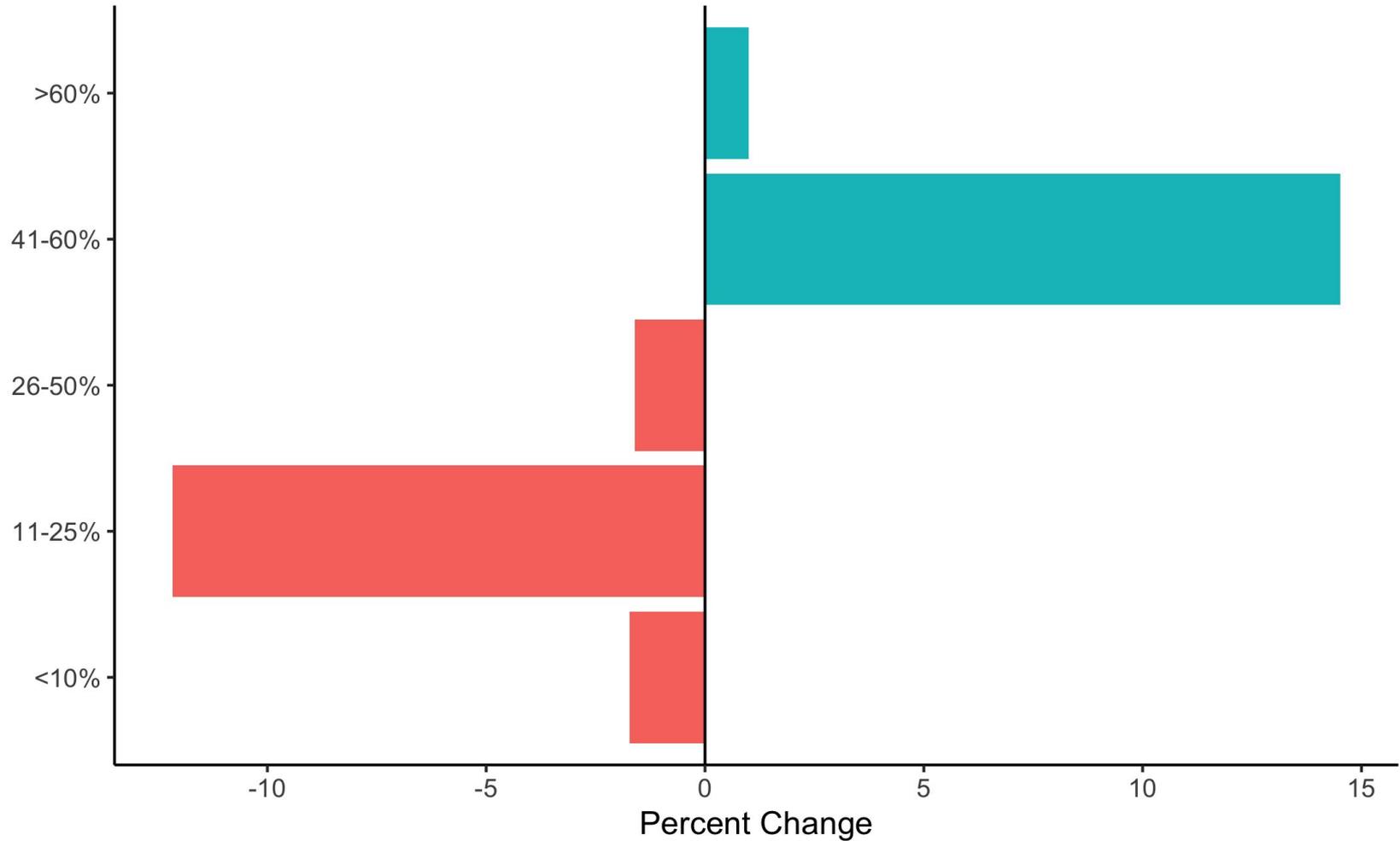
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When you take a patient's medical history, how often in the past 6 weeks did you ask about their use of complementary and alternative therapies (such as dietary supplements, herbs, manual therapy, meditation, homeopathy, etc.?) (P=0.02)



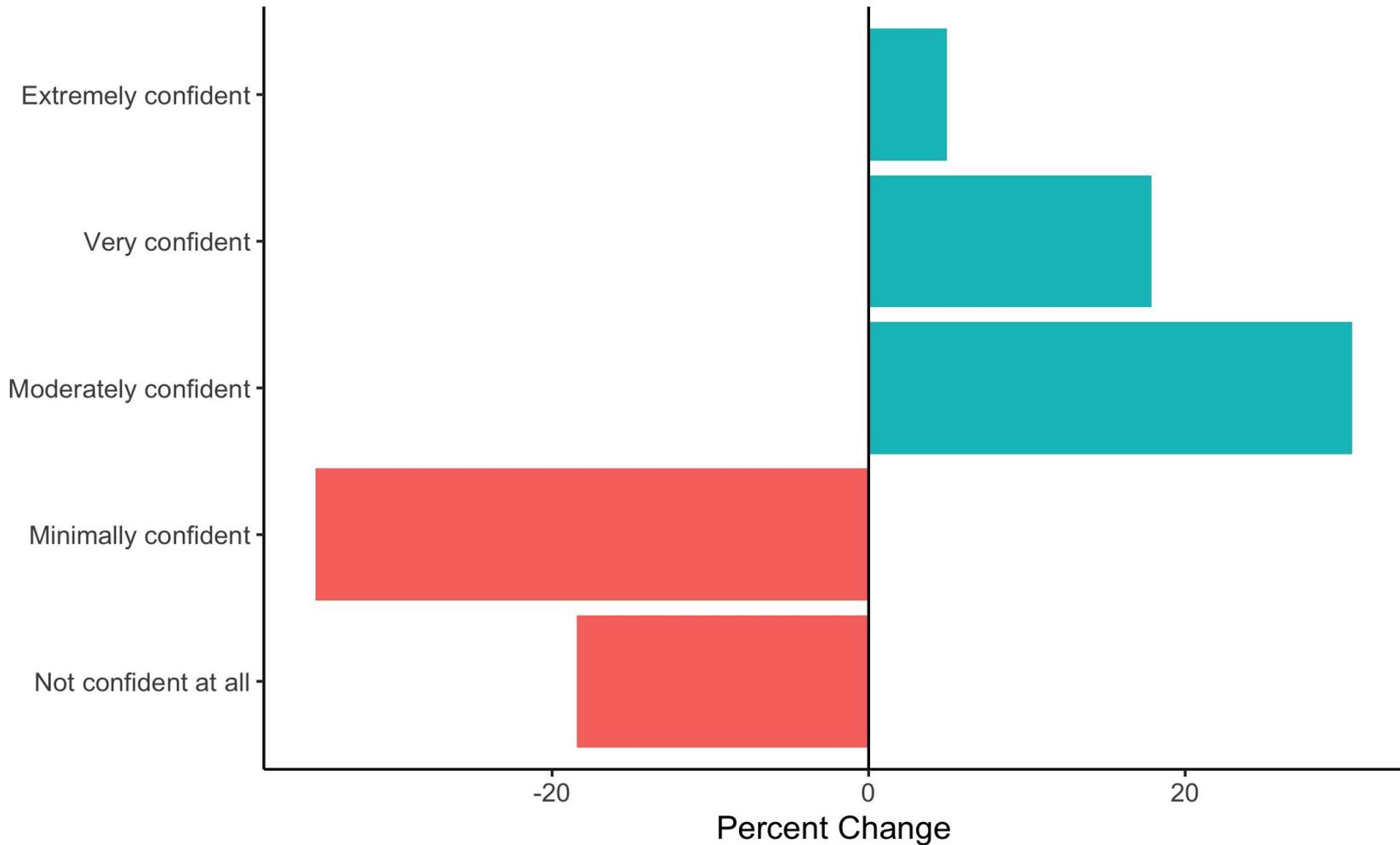
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What do you estimate is the percentage of the adult US population that utilizes complementary and alternative medical therapies? (NS)



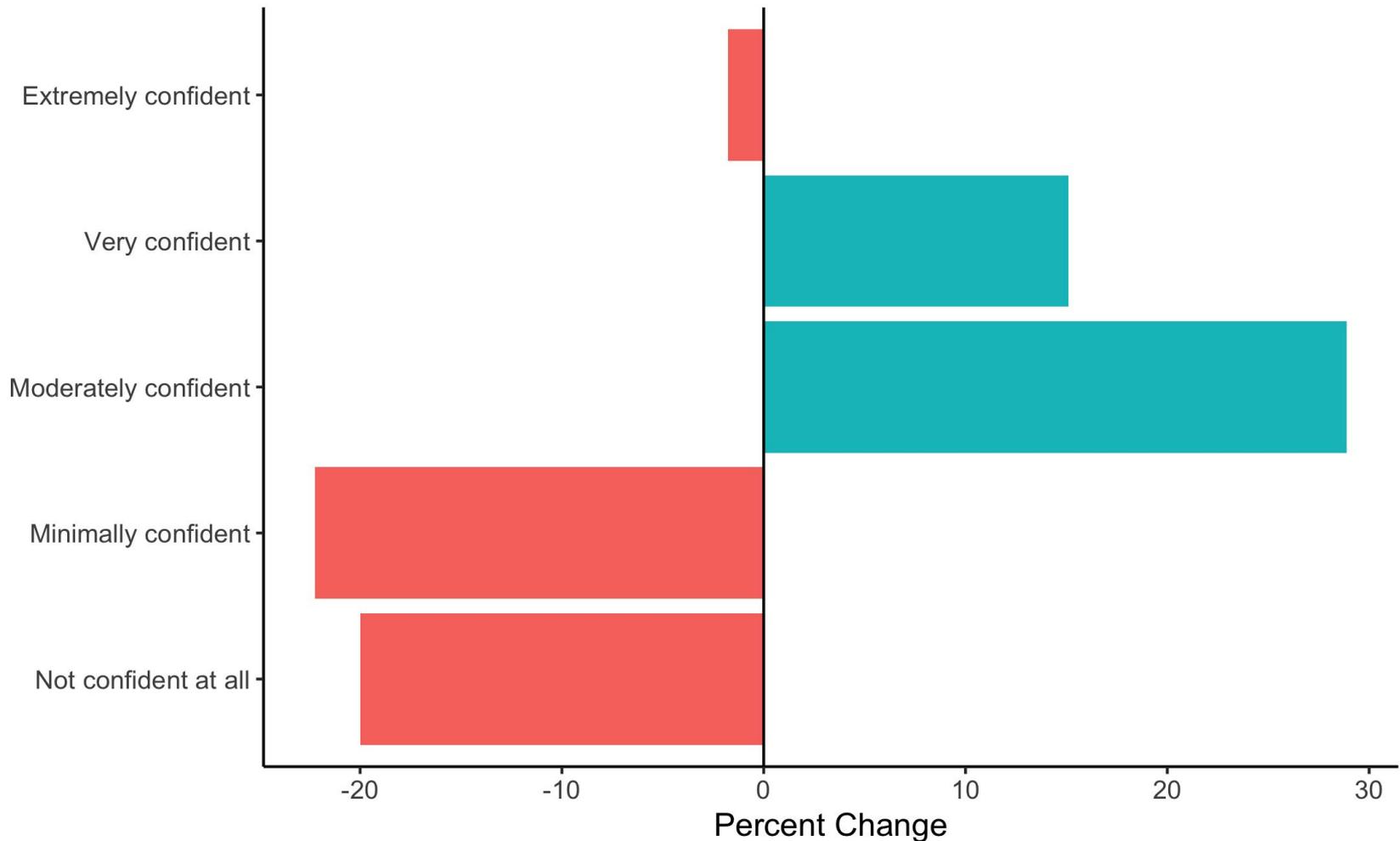
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How confident would you feel explaining to a patient what integrative medicine is? ($p < 0.001$)



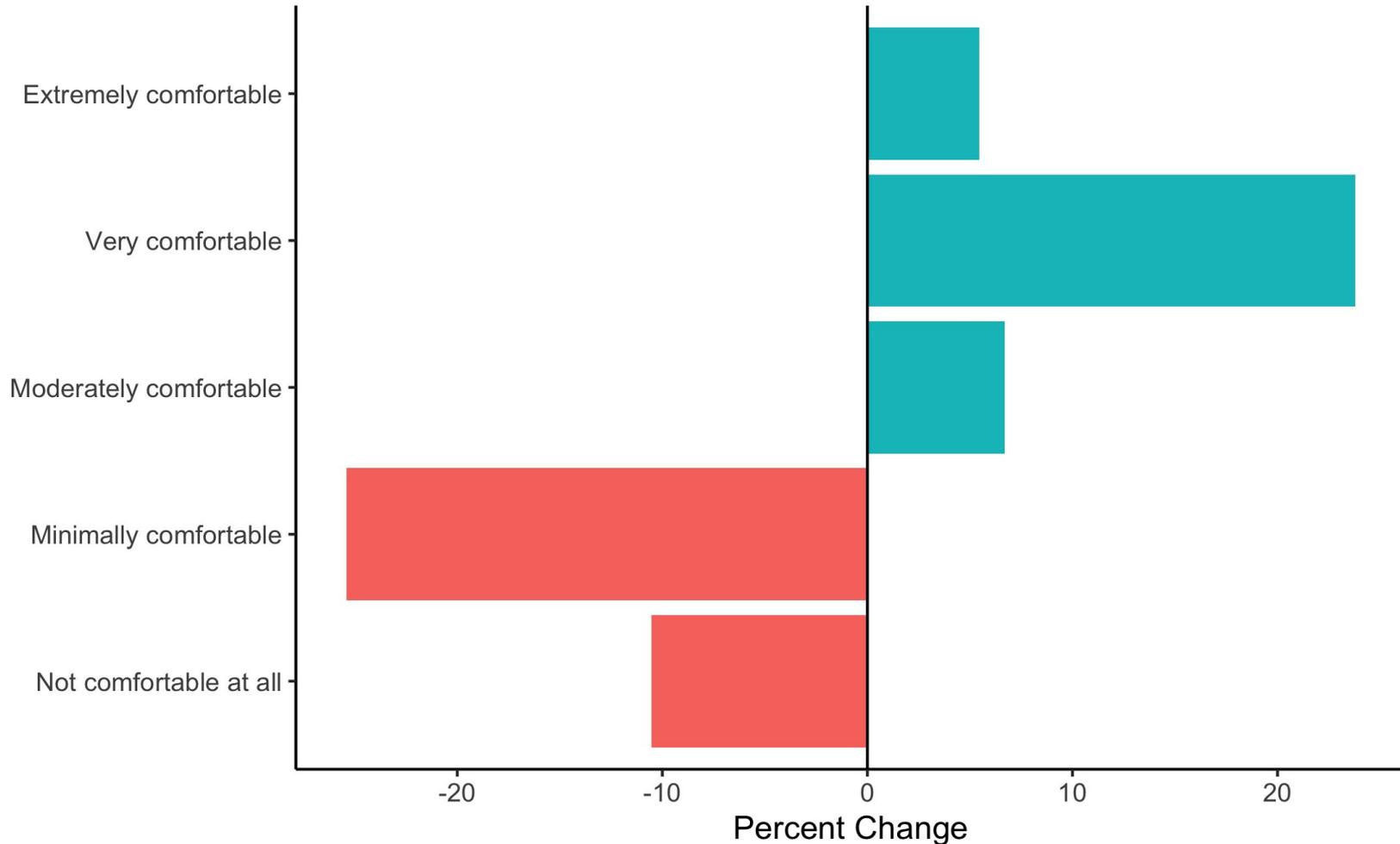
Medical Student Education

How comfortable are you answering questions from patients about their use of complementary and alternative medicine therapies? ($p < 0.001$)



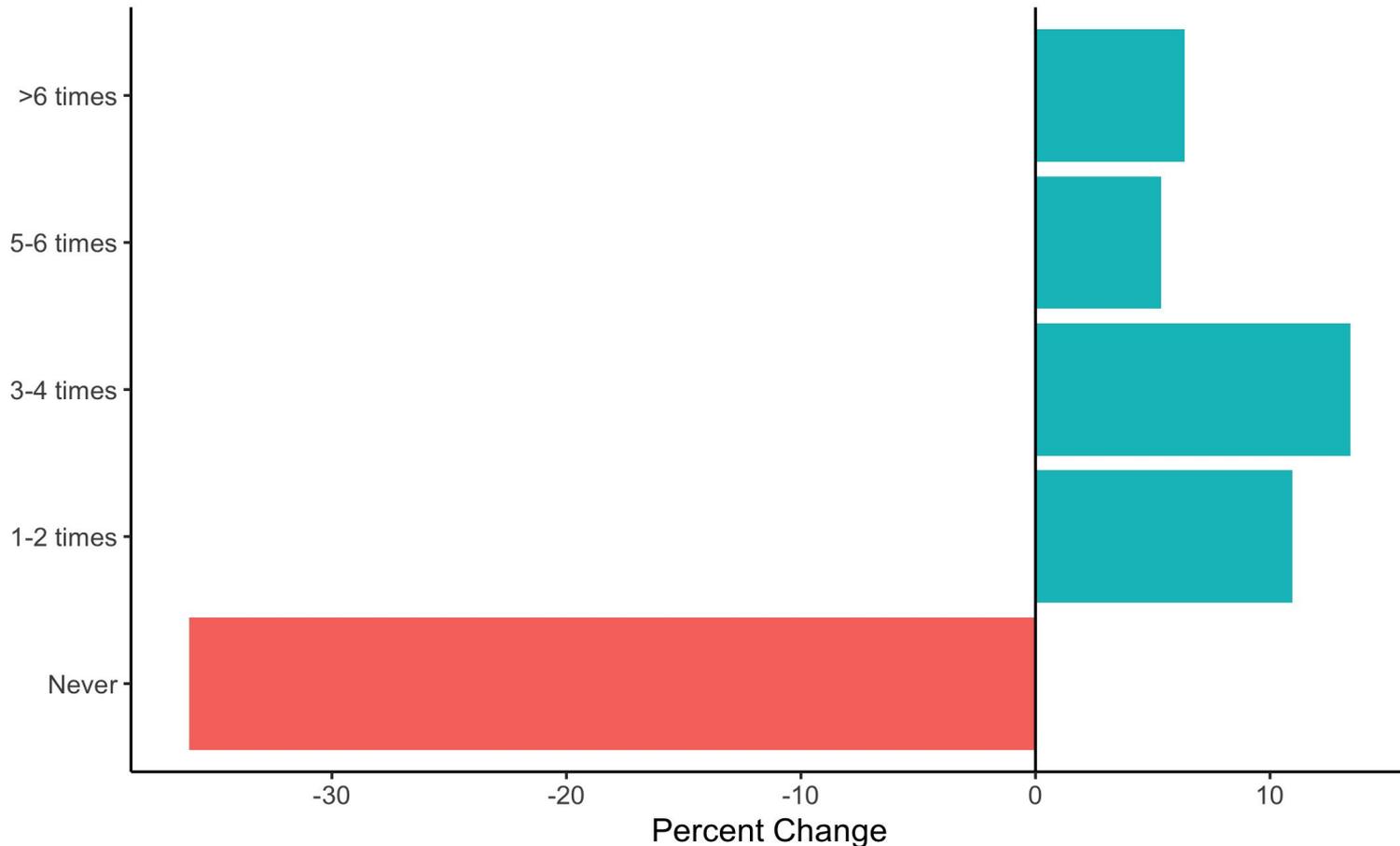
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How comfortable are you looking up information on evidence, safety, drug interactions, etc., on complementary and alternative therapies? ($p < 0.001$)



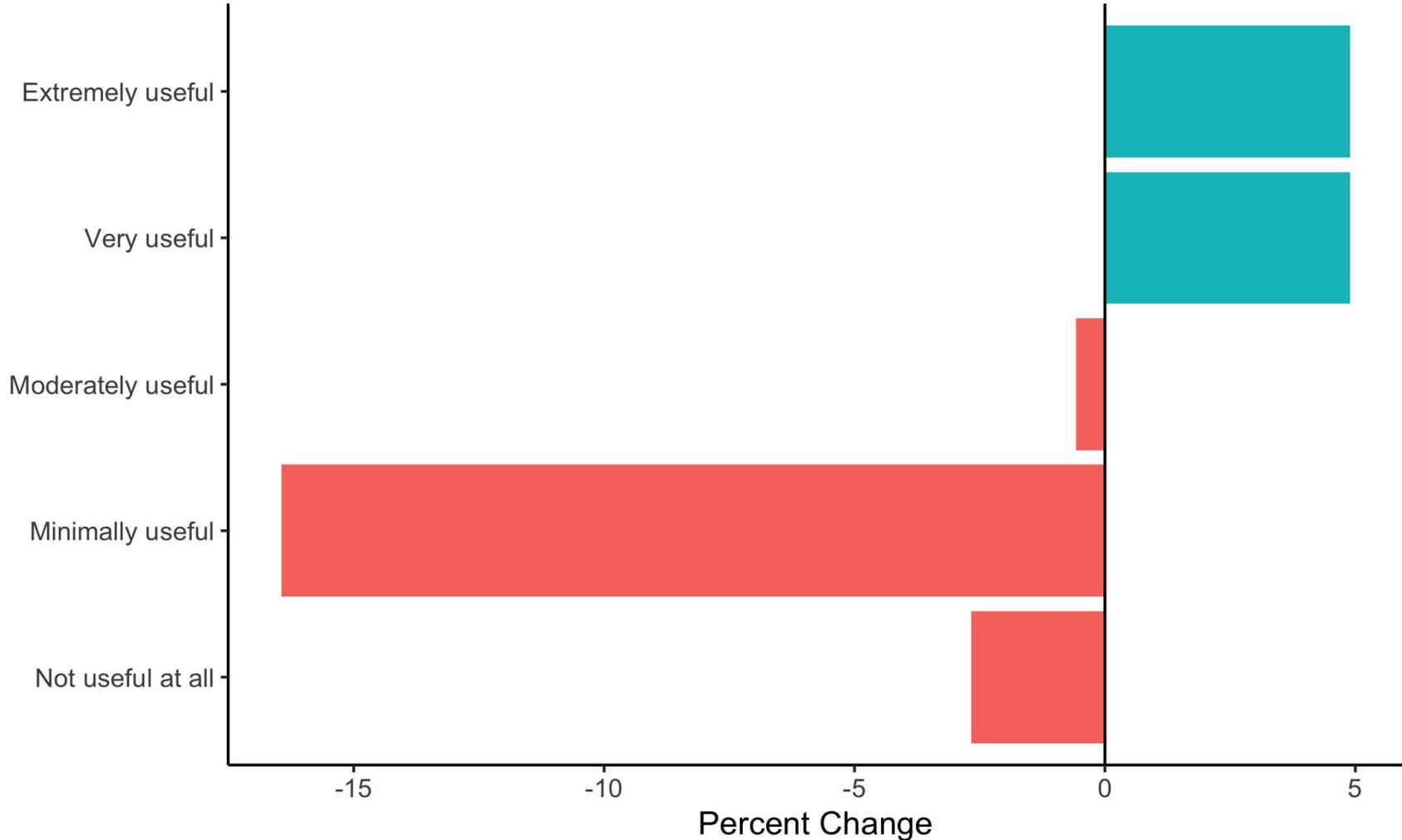
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In the past 6 weeks, how often have you used an evidence-based resource (Natural Medicines, Up To Date, DynaMed, PubMed, etc.) to answer patient questions about a complementary or alternative medical therapy? ($p=0.002$)



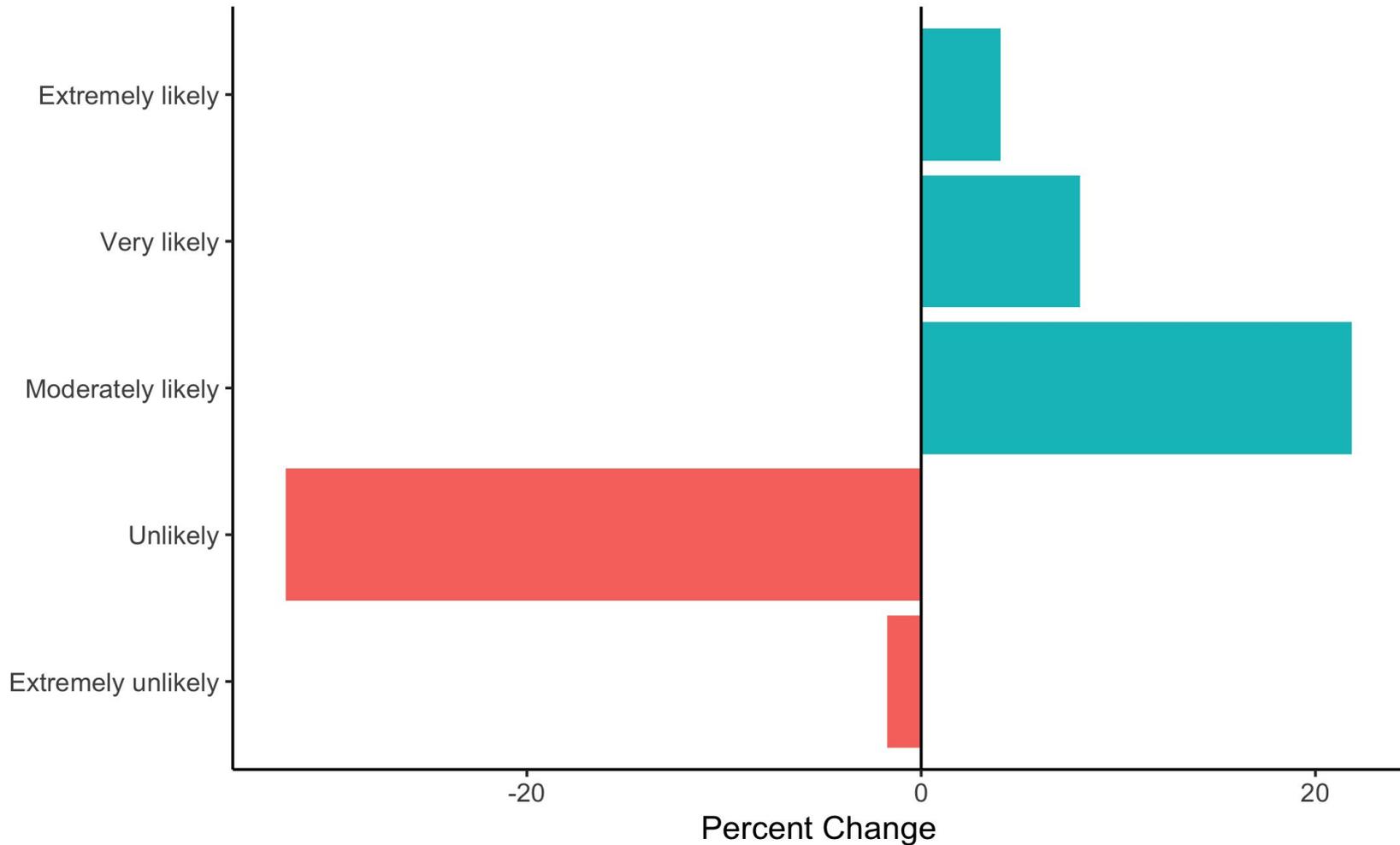
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How useful do you think complementary and alternative therapies are as a part of healthcare? ($p=0.02$)



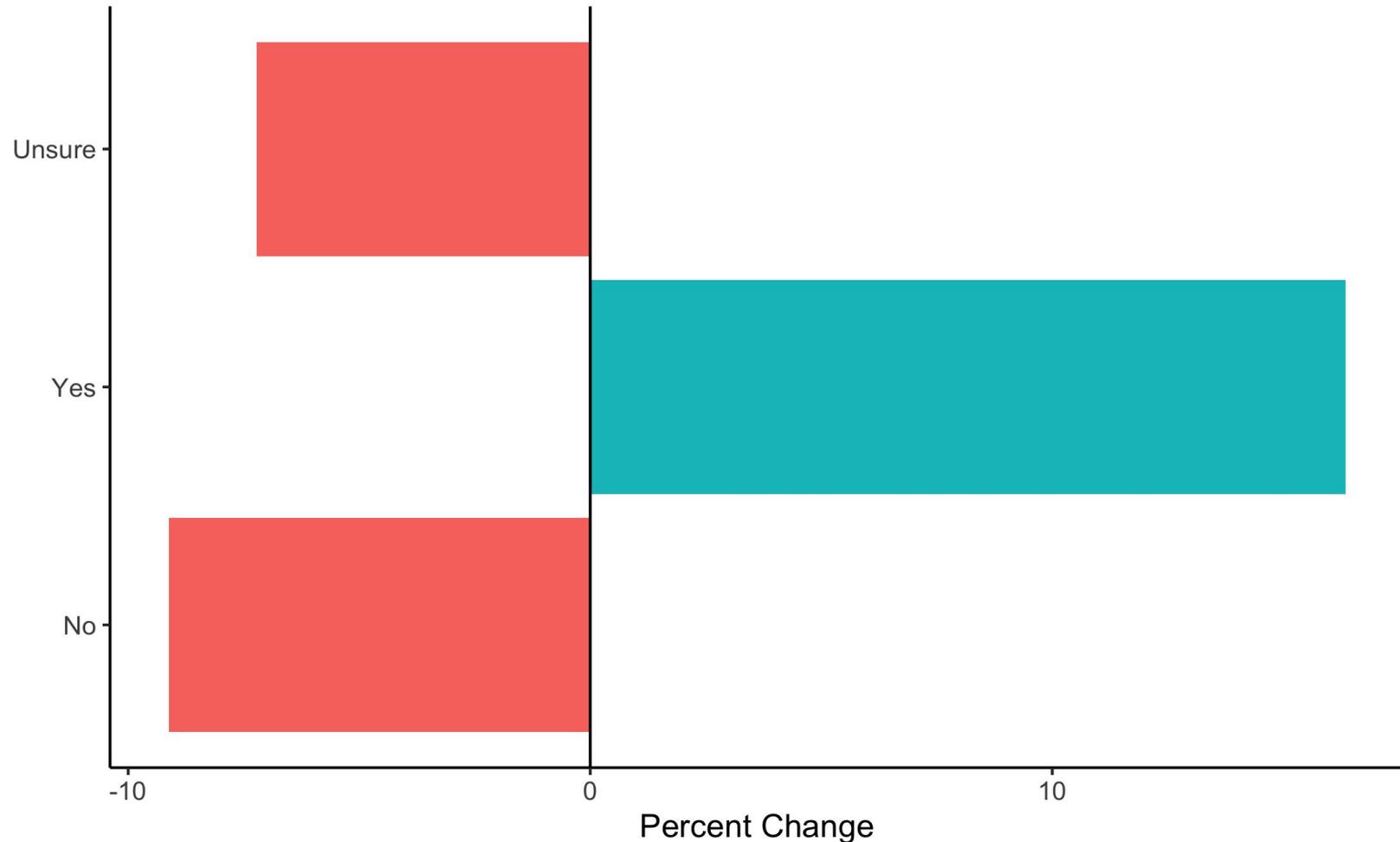
Medical Student Education

How likely are you to recommend a complementary or alternative medicine therapy to a patient? ($p < 0.001$)



Medical Student Education

Do you think that learning about therapies within complementary and alternative medicine should be required in allopathic medical school? $p=(0.04)$



Study Limitations

- Generally low response rate
- Participation bias
- Unknown impact of the family medicine clerkship on survey responses

Conclusions

- A 60-minute interactive didactic session is a feasible way to increase senior medical student comfort in evaluating, recommending, and answering questions about integrative medicine and CAM treatments.
- The study also demonstrates an increase in the use of EBM resources to evaluate CAM therapies as a result of the didactic.

Take-Home Messages

- The widespread use of complementary and alternative medicine (CAM) **necessitates a greater inclusion of integrative medicine** into medical education.
- **One brief** didactic session focused on integrative medicine is enough **to improve students' confidence and competence** in navigating patient use of CAM.
- An introductory session on integrative **medicine can feasibly be included** in family medicine clerkship curricula **to ensure that all medical students receive some basic instruction** around integrative medicine/CAM.
- EBM resources such as Natural Medicine Database are key

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Sources

- Cowen VS, Cyr V. Complementary and alternative medicine in US medical schools. *Advances in Medical Education and Practice*. 2015;6:113-117.
- Saxon DW, Tunncliffe G, Brokaw JJ, Raess BU. Status of complementary and alternative medicine in the osteopathic medical school curriculum. *Journal of American Osteopathic Association*. 2004;104(3):121-6
- Joyce P, Wardle J, Zaslowski C. Medical student attitudes towards complementary and alternative medicine (CAM) in medical education: a critical review. *Journal of Complementary and Integrative Medicine*. 2016;13(4):333-334.
- Mahapatra S, Bhagra A, Fekadu B, Li Z, Bauer BA, Bahner-Roedler DL. Incorporation of integrative medicine education into undergraduate medical education: a longitudinal study. *Journal of Integrative Medicine*. 2017;15(6):442-449.
- Frenkel M, Ben Ayre E. The growing need to teach about complementary and alternative medicine: questions and challenges. *Academic Medicine*. 2001;76(3):251-4.
- Flaherty G, Fitzgibbon J, Cantillon P. Attitudes of medical students toward the practice and teaching of integrative medicine. *Journal of Integrative Medicine*. 2015;13(6):412-5.
- Chow G, Liou KT, Heffron RC. Making whole: applying the principles of integrative medicine to medical education. *Rhode Island Medical Journal*. 2016;99(3);16-9.
- Bailey ML, Chudgar SM, Engle DL, Moon SD, Grochowski CO, Clay AS. The impact of a mandatory immersion curriculum in integrative medicine for graduating medical students. *Explore (NY)*. 2015;11(5)394-400.
- Marcus DM, McCullough L. An evaluation of the evidence in “evidence-based” integrative medicine programs. *Academic Medicine*. 2009;84(9):1229-34.
- Brokaw JJ, Tunncliffe G, Gaess BU, Saxon DW. The teaching of complementary and alternative medicine in U.S. medical schools: a survey of course directors. *Academic Medicine*. 2002;77(9):876-81.
- Forjuoh SN, Rascoe TG, Symm B, Edwards JC. Teaching medical students complementary and alternative medicine using evidence-based principles. *Journal of Alternative and Complementary Medicine*. 2003;9(3):429-39.

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