

# SCOPING REVIEW: COMPLEMENTARY AND ALTERNATIVE MEDICINE OBSERVATIONAL STUDY IN HIGH SCHOOL ATHLETES

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## Introduction

This study explores adolescent athletes' knowledge and use of complementary and alternative medicine (CAM) in the Lehigh Valley. It seeks to identify CAM practices, purposes, and usage trends to offer insights into prevalence and guide future research on CAM efficacy and health impacts.

## Methods

Surveys assess CAM knowledge, use, and purpose among adolescents grades 9-12, covering many provider-administered and non-provider-based modalities. Privacy is prioritized, and parental implied consent obtained. Surveys will be done at school: teens using healthcare without parental awareness are likelier to report CAM (72% vs 52%,  $P=.021$ ). Data will analyze trends by teen activity and modalities

## Results from Literature Review

Our research differs from previous studies by examining multiple aspects of CAM use, focusing on sports performance while also assessing teens' knowledge of CAM and any other reasons for use. This helps identify whether CAM use is increasing for sports alone or other reasons such as health or wellbeing. The project is under IRB review, pending high school approval. A literature review highlights limited U.S.-based research on adolescent athletes and CAM, emphasizing the need for updated data. Key findings include:

- 1999 NY Survey (361 teens): most common CAM use - Massage (13%), Herbal (11.5%), Vitamins (11%), Chiropractic (7%).
- 2002 Midwest Study (401 teens): 68% used CAM; top modalities were Herbal Medicines (27%), Massage Therapy (27%), Megavitamins (22%).
- 2007 NHIS (9417 children): 12% used CAM; 4% non-vitamin products, 3% Chiropractic/OMT.
- 2012 Muscle-Enhancing Study (2973 teens): Protein powders (35%), Steroids (6%).
- 2013 Energy Drink Study:  $n = 52,016$ ; ED prevalence in children 6-10 (18%) vs Teens (68%) vs. Adults (30%).

## Proposed Questionnaire

**L.VHN CAM QUESTIONS**  
(Complementary and Alternative Medicine)

**Purpose of this study:**  
Complementary and Alternative Medicine is defined as group of diverse medical and health care practices and products that are not presently considered to be part of conventional medicine.  
This survey is to look at what forms of complementary and alternative medicine you know of and possibly use. We are asking you these questions because our study has been performed for young adults in high school. We are simply curious about what forms of practices or supplements high school age athletes use to improve or enhance their performance, and why. This study is optional, but we would greatly appreciate your answers and input.

Do you consent to allow us to collect the information below, which may be used in publications and presented to other providers. As a reminder, there are no identifying information questions that can link your answers back to you: YES ☐ NO ☐

**Box 1 - Forms of Activity**  
Athletes are defined as "A person who is trained or skilled in exercises, sports, or games requiring physical strength, agility, or stamina."  
Based on the definition above, do you consider yourself an athlete? If yes, what sport(s) or activities do you participate in?

**Box 2 - What do you know of?**  
Have you ever heard of or know about the following therapies?

	Yes	No
Chiropractic Medicine		
• Massage, bones, crack joints		
Osteopathic Medicine		
• Use of therapeutic pressure or force to treat muscular, bone, or tissue issues		
Herbal or Dietary Supplements		
• Small doses of natural substances, prepared in a specific way, to restore health		
Massage Therapy		
• Natural performance enhancers, items bought at any stores or online retailers		
Meditation		
• Yes No Spiritual Healing		
Acupuncture		
• Yes No Cupping		

Any other forms that we might have missed? Please list below anything else that you have heard of to help with physical performance.

**Box 3 - What do you do?**  
Do you personally use any of the following therapies to help your own performance?

	Yes	No
Chiropractic Medicine		
• Massage, bones, crack joints		
Osteopathic Medicine		
• Use of therapeutic pressure or force to treat muscular, bone, or tissue issues		
Herbal or Dietary Supplements		
• Small doses of natural substances, prepared in a specific way, to restore health		
Massage Therapy		
• Natural performance enhancers, items bought at any stores or online retailers		
Meditation		
• Yes No Spiritual Healing		
Acupuncture		
• Yes No Cupping		

Any other forms that we missed? Please list below anything else that you use or have used to help with physical performance.

**Box 4 - Do you know anything about these supplements?**  
If you checked yes to Dietary supplements in Box 3, check all of the following are you using or have ever used? Please check mark the boxes next to each supplement you use:

	Yes	No	Yes	No
Pre-workout supplements			Testosterone Boosters	
Protein Powder			Energy Drinks	
Amino Acids			Creatine	
Mass Gainer			Herbal Medicines	

**Box 5 - If you take Herbal Medicines or Supplements, why?**  
If you are taking Herbal Medicines or Supplements, please check mark next to the reason why you are. You may check more than one box if you have multiple reasons:

	Yes	No
General Health and Wellbeing		
To treat a medical problem (such as back pain, asthma, anxiety, weight loss, etc)		
To improve sports and athletic performance		
Prefer not to disclose/share		

If other reason, please explain here:

THANK YOU FOR PARTICIPATING, YOUR ANSWERS ARE APPRECIATED

## Conclusions

Our study will update trends and usage to address gaps in knowledge. Understanding teen CAM usage will help guide research on efficacy, benefits, and risks. Identifying prevalent modalities will help educate patients and providers, addressing gaps in knowledge on provider-based CAM and non-prescribed supplements.