

Have You Heard of Vitamin D?

Investigators: Keisa Bennett, MD, MPH; Debra Murray, MS; Brandi Frisby, PhD

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Problem:

A vast body of research has established that Americans are deficient in vitamin D and supports the theory that the daily intake recommended by several respected nutrition-information sources may be inadequate. Although the ideal levels of vitamin D intake have yet to be firmly established, multiple studies reveal a consistent conclusion that serum levels of 20ng/mL are necessary for prevention of osteomalacia and rickets, and that levels of approximately 30-50ng/mL, may be required to gain any of the other purported benefits such as cancer and cardiovascular prevention and prevention of falls in the elderly. The Institute of Medicine recommends lower levels of intake than those shown to raise levels above 30ng/mL, and most children and adults do not even meet that less rigorous guideline. Consequently, both the general public and clinical health care providers remain unaware of the potential magnitude of vitamin D insufficiency and uncertain about the benefits and risks of supplementing vitamin D.

Objectives:

- to determine the current knowledge of both the public and health care providers concerning vitamin D
- to help understand how each group best obtains and implements new information on vitamin D
- to design and evaluate an intervention to increase awareness, knowledge, and appropriate behaviors with regard to vitamin D supplementation (loss of project funding has prevented pursuing this objective so far)

Methods

- qualitative analysis using semi-structured focus groups of community members and interviews of health care providers recruited through UK Cooperative Extension and the Kentucky Ambulatory Network.
- Transcripts of interviews and focus groups have been coded and interpreted through a grounded theory approach

Results

1. Individual interviews of primary care providers
 - a. Participants: 7 KAN members, including Pediatrics, Family Medicine, and Geriatrics
 - b. Main themes: Awareness, Skepticism, Uncertainty, Management of Uncertainty, Responsibility, Evolving information and perception, and Patient Role
 - c. Subthemes: included knowledge/confidence, sources of information, conflicting evidence and lack of guidelines, benefits vs. risks, methods of information-seeking, prioritization, patient barriers, and physician-patient relationship
 - d. Coding from codebook produced a good inter-rater reliability between Dr. Bennett and Dr. Frisby, with a Cohen's Kappa of 0.88 on the main themes.
2. Focus groups of community members
 - a. Participants: 6 groups (2 urban; 4 rural) in 3 cities with a total of 90 participants
 - i. Mostly women, higher than average education, 71% white, 15.5% black
 - b. Main themes (still in process): patient vs. provider driven, information sources of providers, family/friends, and media, variation in awareness and understanding, uncertainty, barrier, patient-physician relationship
3. Comparison of providers to community members
 - a. Commonalities in range of knowledge and understanding
 - b. Inter-dependent information exchange
 - c. Distinct but overlapping and interdependent sources of uncertainty
 - d. Distinct but overlapping information sources and management of uncertainty

Discussion

Providers and the general public all have many uncertainties surrounding testing and treatment of vitamin D; these uncertainties are different between these groups but reflect the inconsistencies in the literature. Despite managing uncertainty by independent research on the internet and through trusted educational sources, most patients still depend mainly on providers for information on vitamin D, and most providers are motivated to consider vitamin D due to at least partly to patient interest or demand. Patient-provider relationship and communication is key to appropriate management of vitamin D status.