



## Review Article

# A systematic review of lifestyle counseling for diverse patients in primary care



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## ABSTRACT

Prior research and systematic reviews have examined strategies related to weight management, less is known about lifestyle and behavioral counseling interventions optimally suited for implementation in primary care practices generally, and among racial and ethnic patient populations. Primary care practitioners may find it difficult to access and use available research findings on effective behavioral and lifestyle counseling strategies and to assess their effects on health behaviors among their patients. This systematic review compiled existing evidence from randomized trials to inform primary care providers about which lifestyle and behavioral change interventions are shown to be effective for changing patients' diet, physical activity and weight outcomes.

Searches identified 444 abstracts from all sources (01/01/2004–05/15/2014). Duplicate abstracts were removed, selection criteria applied and dual abstractions conducted for 106 full text articles. As of June 12, 2015, 29 articles were retained for inclusion in the body of evidence.

Randomized trials tested heterogeneous multi-component behavioral interventions for an equally wide array of outcomes in three population groups: diverse patient populations (23 studies), African American patients only (4 studies), and Hispanic/Mexican American/Latino patients only (2 studies).

Significant and consistent findings among diverse populations showed that weight and physical activity related outcomes were more amenable to change via lifestyle and behavioral counseling interventions than those associated with diet modification. Evidence to support specific interventions for racial and ethnic minorities was promising, but insufficient based on the small number of studies.

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## 1. Context

Increasing rates of overweight and obesity, along with low levels of physical activity and poor diets, contribute to the high prevalence of chronic diseases (de Waure et al., 2013) and to poorer outcomes among individuals with those conditions (de Waure et al., 2013). Patients with chronic disease are most frequently seen in primary care settings and considerable interest exists in integrating lifestyle counseling and health behavior change strategies into primary care (AMA, 2013; Dysinger, 2013; Clarke and Hauser, 2016; Wolfenden et al., 2016). Primary care practitioners face numerous challenges in offering lifestyle and behavioral change counseling for patients with chronic conditions. Many studies and systematic reviews have examined strategies designed to change diet (Orozco et al., 2008; Angermayr et al., 2010), increase physical activity (Richards et al., 2013a; Richards et al., 2013b), and manage weight (Tsai and Wadden, 2009), but little is known about lifestyle and behavioral counseling approaches optimally suited for implementation in primary care practices generally, and among racial and ethnic patient populations in particular (Angermayr et al., 2010; Pal et al., 2013; Glynn et al., 2010; Duke et al., 2009; Lager et al., 2014). Primary care practitioners may find it difficult to access and use available research on effective strategies, to assess effects of specific behavioral and lifestyle counseling strategies on changes in health behaviors overall and specific population groups in their practice, and to define their role in providing lifestyle and behavioral change counseling (Hebert et al., 2012; Tulloch et al., 2006).

This review aimed to compile existing evidence from randomized trials about lifestyle and behavioral change strategies shown to be effective for changing patient outcomes related to diet, physical activity, and weight loss and/or body mass index (BMI) for samples of diverse patient populations (e.g., any study population of any composition without regard to race or ethnicity) and patients in racial and ethnic minority groups in primary care settings (e.g., any study population that was comprised solely of one racial and/or ethnic group). Key questions (KQ) are:

- KQ1: What lifestyle counseling and behavioral change strategies are shown to be effective in changing patient outcomes (diet, physical activity and weight loss and/or BMI) for all patients in primary care practice settings?
- KQ2: What lifestyle counseling and behavioral change strategies are shown to be effective in changing primary patient outcomes (diet, physical activity, and weight management) for patients in racial and ethnic minorities in primary care settings?

## 2. Evidence acquisition

Agency for Healthcare Research and Quality Evidence-based Practice Center (EPC) review methods and PRISMA guidelines were used to establish eligibility criteria (Table 1), conduct the review, and report findings based on study design, PICOS (e.g., participants, interventions, comparisons, outcomes and settings) and report characteristics (Table 1). Databases included MEDLINE®, the Cochrane Library, Cochrane Central Trials Registry, PsychInfo, and online repositories of evidence-based interventions. Table 2 describes full electronic search strategies for Scopus, PubMed and CINAHL including the search strategies used to

**Table 1**  
General inclusion/exclusion criteria for key questions.

Category	Inclusion criteria	Exclusion criteria
Study design	All trials including randomized clinical trials, comparative effectiveness studies, etc. (should have a comparator such as another intervention or usual care control group). Observational Cross-sectional Qualitative	Editorial Newspaper article Press release Commentary Conference talk Case studies Systematic reviews
Setting	Primary care Ambulatory care University internal medicine Health clinic (FQHC or public health clinic)	Hospital/inpatient Community Academic
Date published	2004–2014	Prior to 2004
Language	English-speaking	Not English-speaking
Country	Only United States	Not United States
Population	Adults ages 18–75 years	Aged <18 or >75 years
Intervention	Lifestyle counseling related to diet, physical activity or obesity. Interventions with a nutrition and/or weight management component. Intervention components that pertain to counseling, printed materials, coaching, etc. Outcomes related to diet/nutrition, physical activity, weight loss, body mass index, and obesity.	Doesn't have components aforementioned in inclusion criteria (e.g. primary intervention is pharmacological strategy only. No lifestyle counseling or diet/physical activity activities are integrated into the intervention.)

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