

# Dietary Interventions and Quality of Life: A Systematic Review of the Literature

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## ABSTRACT

**Objective:** To systematically review the literature to examine whether there has been adequate assessment of the effects of dietary intervention on quality of life (QOL) independent of weight loss, assess which instruments are being used to measure nutrition-related QOL, identify gaps in the literature, and suggest future directions.

**Design:** Systematic review guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Statement.

**Results:** A total of 24 studies were eligible for inclusion. The Short Form-36 Health Survey was the most widely used instrument to assess QOL. Other disease-specific instruments were used. Several different dietary approaches (eg, low carbohydrate, low calorie, low fat, combinations) were recommended. Across studies, QOL generally improved after participating in behavioral weight loss interventions, but findings revealed a lack of evidence to definitively determine whether reported changes in QOL were a result of weight loss or independent of it.

**Conclusions and Implications:** It is important to consider how making broad dietary recommendations for all individuals might affect overall QOL in both positive and negative directions when considering factors other than weight loss and health improvement. If dietary interventions are adversely affecting QOL in other domains (eg, social, economic) and this relationship is not being detected or reported by current research practices, barriers for successful and sustainable dietary changes may not be fully understood.

**Key Words:** quality of life, diet, weight loss, review (*J Nutr Educ Behav.* 2014;46:90-101.)

## INTRODUCTION

Behavioral lifestyle interventions that include recommendations for dietary changes are widely used to promote weight loss, which, for some individuals, results in decreased risk for several chronic diseases including type 2 diabetes,<sup>1</sup> hypertension,<sup>2</sup> and some cancers.<sup>3</sup> These interventions include a range of dietary approaches (eg,

low fat/low calorie, low carbohydrate, low energy density) for creating the energy deficit needed for weight loss. Indeed, the implementation of a variety of dietary interventions has produced at least modest weight loss for many and substantial weight loss for some. However, despite the apparent benefits of dietary interventions on weight and weight-related health outcomes, the independent effect of

these various dietary interventions on quality of life (QOL) remains unclear.

Broadly, QOL is a multidimensional concept that includes an individual's subjective evaluation of both positive and negative aspects of life.<sup>4</sup> Specific areas of study may explore QOL related to a particular discipline, such as a specific disease, overall health, or weight. Research examining the effect of weight loss on QOL is largely mixed depending on whether the QOL measure is obesity specific, and on the intervention modality.<sup>5,6</sup> In addition, much of these data are limited to examining only changes in QOL related to weight loss and improvement in health conditions. This approach fails to consider an independent effect that implementing behavior change, altering dietary consumption, or simply participating in an intervention program may have on an individual independent of weight loss. **Figure 1** proposes a conceptual model for the relationship between dietary intake and QOL. It illustrates the relationship between

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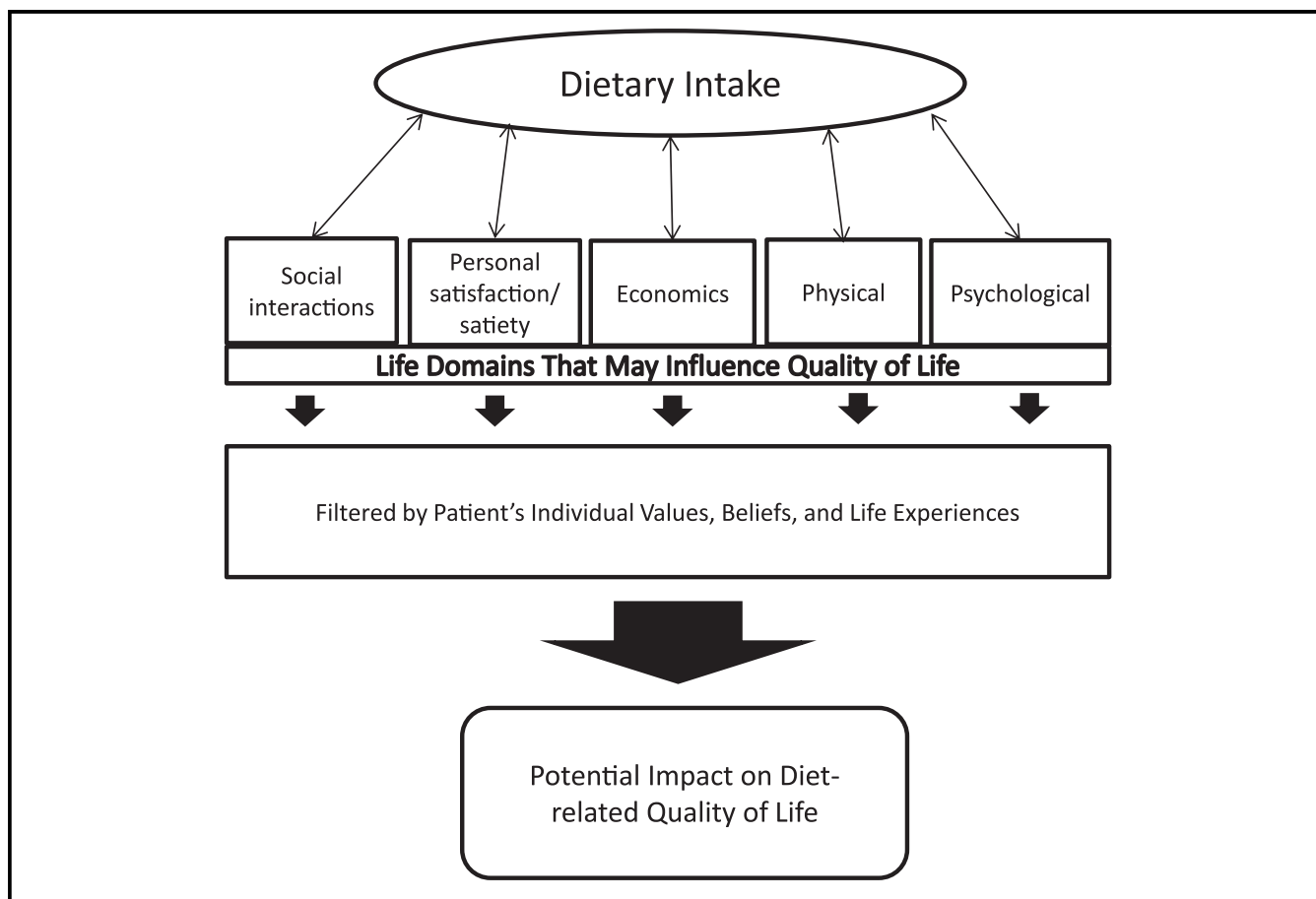
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<http://dx.doi.org/10.1016/j.jneb.2013.09.005>



**Figure 1.** Conceptual model of the potential impact of dietary intake on quality of life.

dietary intake and several life domains that may ultimately influence QOL. This figure highlights important areas to consider when examining how dietary changes may affect QOL in both positive and negative ways and regardless of whether weight loss occurs. For example, whereas weight loss that results from dietary change may improve some domains of QOL for some individuals, dietary change may also have negative effects on QOL by affecting that individual's economic situation or social interactions, which are often food centered. Thus, if an individual's QOL is diminished in some way as a result of dietary change, that individual may be less likely to continue to implement the change, which will ultimately limit successful weight loss and/or weight loss maintenance.

To date, the majority of nutrition- or weight-related QOL research has focused on the relationship between dietary intake and QOL by way of physical measures such as weight loss or risk factor reduction. However,

it is plausible that making dietary changes can have a meaningful effect—positive or negative—on QOL through other avenues that are less well understood. Guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Statement,<sup>7</sup> the purpose of this report was to systematically review the literature to examine whether there has been adequate assessment of the effects of dietary intervention on QOL independent of weight loss, to assess which instruments are currently being used to measure nutrition-related QOL, to identify gaps in the current literature, and to suggest future research directions.

## METHODS

Published results of nutrition/dietary interventions intended to promote weight loss were reviewed. The primary outcome of interest was change in QOL. Secondary outcomes of interest were changes in weight and attrition.

With the assistance of a reference librarian, articles were retrieved using searches performed in PubMed, CINAHL, Psychinfo, Scopus, and the Cochrane Library. Searches for MeSH headings and key words were conducted to identify publications for inclusion, using the following limits: date, human studies, age and language. Searches were performed using combinations of the following terms: “quality of life,” “nutrition,” “diet,” “food,” “weight,” “weight loss,” and “intervention.”

## Inclusion and Exclusion Criteria

All studies were evaluated according to the following inclusion criteria: (1) The study reported QOL as an outcome; (2) the study was a dietary intervention; (3) the study was intended to promote weight loss; (4) the intervention was at least 12 weeks in duration; (5) the study was a human study; (6) study participants were adults (age  $\geq 19$  years); (7) the publication was available in the English

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