



Do Food Blogs Serve as a Source of Nutritionally Balanced Recipes? An Analysis of 6 Popular Food Blogs

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ABSTRACT

Objective: To determine whether sampled food blogs provide nutritionally balanced recipes.

Methods: Two entree recipes per season, per year (2010–2011) were selected from 6 highly ranked food blogs ($n = 96$). Food Processor Nutrition and Fitness software was used to analyze sodium, saturated fat, and energy content. Analysis was separated by protein type (vegetarian, poultry, red meat, and seafood).

Results: Recipes met energy recommendations but were excessive in saturated fat and sodium. Vegetarian and seafood recipes were significantly lower in risk nutrients compared with red meat and poultry recipes. Red meat recipes were not significantly different from poultry recipes for risk nutrients studied; poultry recipes were higher in sodium and energy compared with red meat recipes.

Conclusions and Implications: The public should be aware of the nutritional limitations of popular food blogs; dietitians could assist in modifying blog recipes for individuals and partner with bloggers to improve the nutritional profile of recipes.

Key Words: food blogs, social media, recipe modification, saturated fat, sodium (*J Nutr Educ Behav.* 2013;45:696–700.)

INTRODUCTION

Dietitians and public health professionals often recommend cooking at home to help individuals reduce sodium, saturated fat, and total energy intake, but doing so successfully depends on access to a source of recipes that will assist in meeting targets for these risk-related nutrients.¹ Increasingly, individuals are seeking recipes through Internet sources including food blogs.² With the growing popularity of social media, dietitians and other public health professionals must become aware of the quality of recipe information that is available and commonly accessed on the Internet.

Despite recommendations that Americans limit saturated fat and sodium intake and balance total energy intake, national data suggest that Americans do not meet recommended targets.^{3,4,6} Frequent consumption of food away from home contributes to

excess energy, fat, and sodium.^{7,8} However, data also suggest that intake of fat, energy, and sodium exceed recommended levels even for those who eat out less often.⁹ Complete understanding as to why those who eat more frequently at home exceed recommendations warrants further research. Hypothesized reasons include larger portions and higher frequency of snacking.⁹ One area that should be looked at more closely involves the virtual space in which consumers are accessing recipes, and the nutritional adequacy of those recipes.

According to a recent survey from BlogHer,¹⁰ the top female social media network, 89% of the US online population has used the Internet to find recipes, and those who do so place high importance on cooking dinner every night. With a growing number of individuals cooking at home compared with eating out, food blogs may markedly affect nutrient intake.¹¹

Several factors may influence the nutritional content of recipes posted on food blog sites. The use of colorful photographs to attract readership may emphasize appearance over nutritional value. Popular bloggers may also have partnerships with food companies, which can influence the ingredients and therefore the nutritional value of the posted recipes. In this way, food blogs may serve as a mode of food advertising in which the reader's degree of trust in the blog may have an important role in consumerism.² The BlogHer study also found that 71% of young food blog readers aged 18–44 years have made purchases based on a blog's recommendation.¹⁰ The purpose of this study was to determine whether sampled food blogs provide nutritionally balanced recipes for the public.

METHODS

The authors performed a content analysis to examine nutrient values of recipes found on popular food blogs. The Web site BlogRank¹² was used to identify the top 6 food blogs relevant to the study. BlogRank collects data for approximately 20,000 blogs and uses an algorithm based on ranking factors including Rich Site Summary (RSS)

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memberships, unique monthly visitors, search engine ranks, number of incoming links, pages per visit, and link-to-page ratio. The ultimate rank filter, which incorporates all of these factors, was used to determine blog popularity for the final selection. Blogs were required to have frequent postings and contain entrée recipes that could be generalized to the public, as opposed to blogs that cater to special diets such as gluten free or vegetarian. Table 1 provides a description of the food blogs analyzed for this study.

The recipe selection protocol specified 2 entrees per season per year for the years 2010 and 2011, for a total of 96 recipes representing the 6 blogs. Season was specified in 3-month increments as fall (September, October, and November), winter (December, January, and February), spring (March, April, and May), and summer (June, July, and August). Recipes were eligible for analysis if they were posted during the specified season and year, and if they were labeled “main course” or “entrée.” Recipes were selected chronologically as listed on the blog Web site to avoid selection bias. Recipes excluded from analysis included those labeled as beverages, desserts, and hors d’oeuvres. Blogs designed specifically for restricted diets were also excluded because of the potential for the special dietary needs to alter nutrient content for the nutrients of interest.

The authors analyzed a subset of 15 recipes to determine inter-rater reliability among the 3 coders. All blogs were represented in this subset. An acceptable level of agreement was set before analysis at a score of 0.90. An intra-class correlation score was calculated based on 6 nutrients (total calories, protein, total fat, cholesterol, saturated fat, and sodium) with an average score of 0.972, which confirmed high inter-rater agreement. Food Processor Nutrition and Fitness software (version 10.9.0, ESHA Research, Inc, Salem, OR, 2011) was used to calculate nutrient values in the recipes. If a specific ingredient could not be found in the Food Processor software, an online search was performed to determine the closest relative, which was entered in the code book and used by all coders to maintain consistency. Ambiguous measurements such as “pinch of salt” were quantified and compiled into an analysis protocol, also to ensure consistency.

The Food Processor program (database released: August 8, 2011) provided a complete list of nutrient information for the recipes. In addition to the nutrient analysis, the US Department of Agriculture's MyPlate tool was selected within the Food Processor program to assess the nutrient breakdown compared with the 2010 Dietary Guidelines.¹³ The as-purchased weight of food and the edible portion weight were accounted

for within the Food Processor program.

One-way analysis of variance tested variations between the dependent variables of calories, saturated fat, and sodium and the independent variables of blog, season, year, and protein type (meat, seafood, poultry, and vegetable). Analysis of variance tests were run independently for each category and all data were normally distributed as determined by Kolmogorov-Smirnov testing within the SPSS program (version 10.1, SPSS, Inc, Chicago, IL, 2012). Seafood recipes were initially left out of the analysis because of insufficient power as a result of the small sample size ($n = 8$) but were later included together with the vegetable recipes for a *post hoc* analysis of a pescatarian recipe category. *Post hoc* Tukey analysis was used when comparing ≥ 3 or more variables, such as the case with seasons and protein types, to investigate original relationships. In addition, overall nutrient means were calculated for each category and for the entire sample. Statistical significance was set at $P < .05$. All statistical tests were run using SPSS software.

Institutional review board review was not required for this study because human subjects were not involved, as per the US Department of Health and Human Services guidelines.¹⁴

RESULTS

The final sample consisted of 96 recipes, 38% of which were classified as vegetarian (pasta, salads, soups/stews, casseroles, etc, without meat, but including dairy and egg); 33% of the recipes featured red meat as the protein source; 21% featured poultry; and 8% featured seafood in the form of either fin fish or shellfish. No significant differences were found for total calories, saturated fat, or sodium among the 6 blogs or the individual year categories.

Although no significant differences in calories or saturated fat were observed by season, significant differences were found for sodium across seasons ($P = .04$). Recipes posted from December to May contained 30% more sodium compared with recipes posted from June to November.

Table 1. Food Blog Author Locations and Popularity Rankings^a

Name	Location	Unique Visitors ^b	Google Rank ^c	Blog Rank ^d
Pinch My Salt	California, US	42,213	4	7
Chocolate and Zucchini	Paris, France	103,505	21	6
Simply Recipes	California, US	2,005,628	15	NA
Smitten Kitchen	New York, US	325,687	5	3
Pioneer Woman	Oklahoma, US	655,219	37	7
Busy at Home	Nebraska, US	7,554	> 100	18

NA indicates not available.

^aNumbers are as of July, 2012; ^bUnique visitors according to <http://Compete.com> (a count of unique individual people visiting the site per month). Visitors are counted once, no matter how many times they visit a site in a month. Counts represent traffic from the US only; ^cGoogle Organic Search Rank is search results regardless of paid advertising efforts; ^dBlog Rank uses over 20 different factors to rank blogs in any category. Some of the factors include Rich Site Summary (RSS) membership, incoming links, Compete Alexa and Technorati ranking, and social sites popularity.

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