



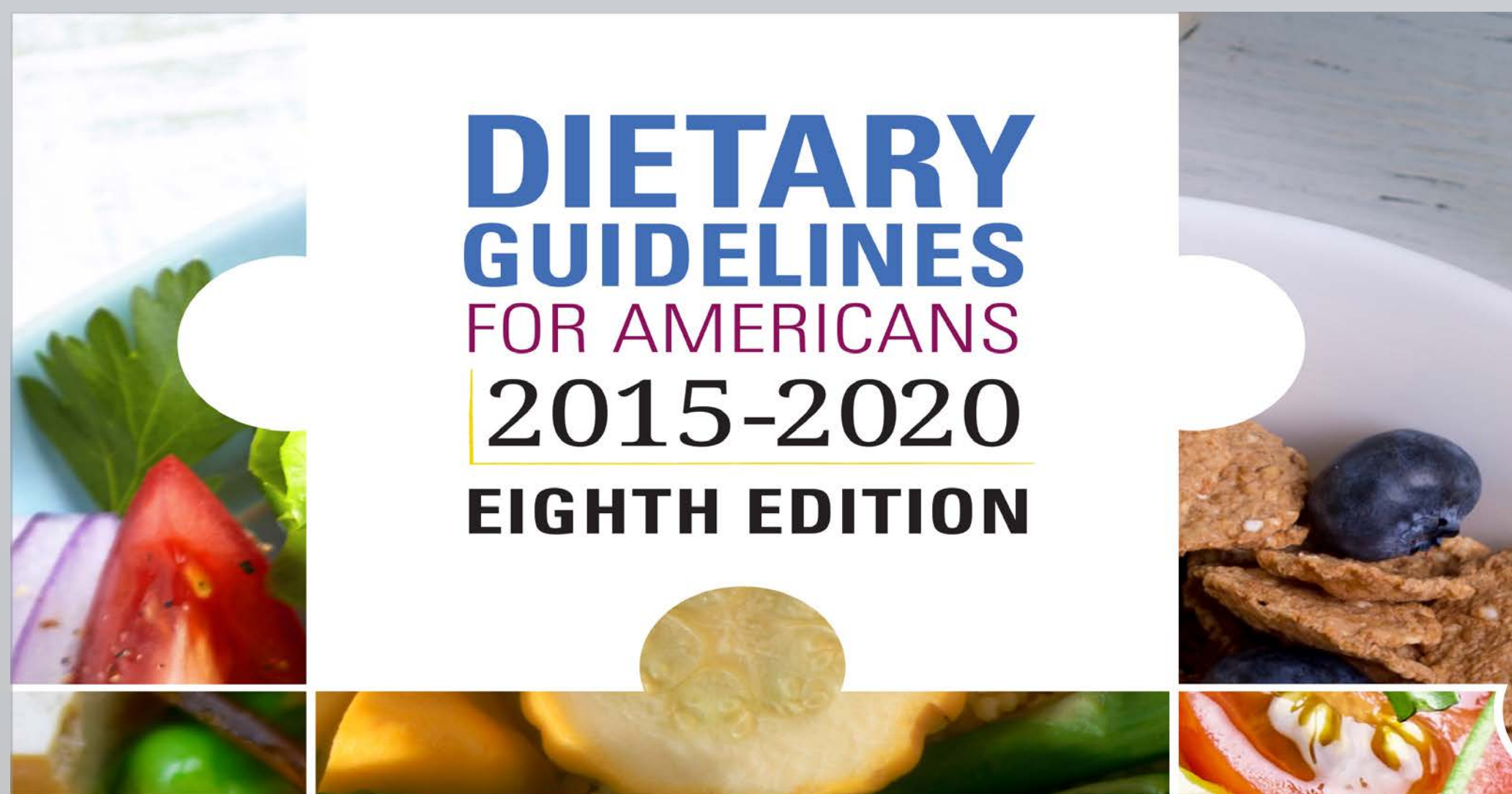
# Factors associated with Dietetic Interns' knowledge of sodium and the 2015 Dietary Guidelines for Americans (DGA)

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## Introduction

- ❖ The DGA provides evidence-based dietary information aiming to promote healthy dietary patterns and prevent chronic diseases (HHS & USDA, 2015).
- ❖ Although health professionals have access to the DGA for educational purposes, 117 million Americans suffer with at least one chronic disease that can be attributed to poor dietary habits (HHS & USDA, 2015).
- ❖ Data show that food choices among Americans are far from aligning with the DGA; a National Eating Trends survey demonstrates the average American only meets DGA recommendations for 2% of the days in a year (Ohlhorst, 2013).
- ❖ A particular topic of concern is American's lack of adherence to the DGA recommendations for sodium, where 89% of adults, 86% of hypertensive adults, and 90% of children exceed the daily recommended sodium intake, placing them at higher risk for chronic diseases (Jackson, King, Zhao, & Cogswell, 2016).
- ❖ A contributing factor of poor adherence to general nutritional guidelines is the lack of knowledge among health professionals (Ohlhorst, 2013)
- ❖ Dietetic professionals may not be properly educating their patients about to DGA due to factors influencing their knowledge. Factors including self-efficacy, belief, eating patterns, and behavior are factors that have bidirectional influence on dietary knowledge (Macías & Glasauer, 2014). However, no studies to date have assessed these factors on knowledge of the DGA among Dietetic Interns.



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## For more information

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## Methods

- ❖ **Sample:** Participants were gathered from Dietetic Internships in Southern California. All Dietetic Interns beginning or graduating in 2016 from California State University, Long Beach (CSULB), CSULB's Individualized Supervised Practice Pathway (ISPP), California State University, Northridge (CSUN), California State Polytechnic University, Pomona (VAGLAHS), VA San Diego Healthcare System (VASDHS), San Diego WIC Program (SD-WIC), Northeast Valley WIC Program (NEV-WIC), Public Health Foundation Enterprises WIC Program (PHFE-WIC), and Patton State Hospital (PSH) were considered eligible.
- ❖ **Procedures:** Dietetic Interns were recruited through their Directors via email.
- ❖ **Instrumentation:** A self-created questionnaire was uploaded on Qualtrics platform and sent to participants. The 32-item multiple-choice questionnaire intended to assess whether Interns' knowledge is related to their self-efficacy for applying the DGA, belief that the DGA is a trusted resource for nutritional advice, eating patterns, and sodium intake behaviors.

### Assessment:

- ❖ **Overall knowledge:** 12 questions testing recognition of the DGA purpose, DGA development, five Guidelines, and Key Recommendations.
- ❖ **Sodium knowledge:** 9 questions testing on general information about sodium, recommended and average intakes, prominent sources of sodium, and strategies to reduce sodium intake.
- ❖ **Self-efficacy:** 1 question requesting Interns to describe their level of confidence in applying the 2015 DGA.
- ❖ **Belief:** 1 question requesting Interns to describe their level of belief that the 2015 DGA is a trusted resource for nutritional advice.
- ❖ **Eating pattern:** 1 question requesting Interns to best describe their eating pattern.
- ❖ **Sodium intake behavior:** 2 questions requesting Interns to best describe the degree to which they add salt to food and their consumption of processed food.

### Data Analysis:

- ❖ Descriptive statistics for demographic variables and primary variables of interest.
- ❖ Associations between knowledge and self-efficacy, belief, and sodium intake behavior with Pearson correlations.
- ❖ Differences in knowledge by eating patterns with one-way analysis of variance (ANOVA).
- ❖  $P < 0.05$  to reject null hypotheses.

## Results

- ❖ Directors from CSULB, CSULB's ISPP, CSUP, UCSD, VAGLAHS, and PSH gave their permission to participate in the study and sent information to their Dietetic Interns. The majority of participants were female, 23-36 years old, and Caucasian.

TABLE 1. Descriptive Statistics of Correct Survey Responses for Dietetic Interns Participating in the 2015 Dietary Guidelines for Americans (DGA) Survey

| Variable   | n <sup>a</sup> | Min <sup>b</sup> | Max <sup>c</sup> | Mean ±SD <sup>d</sup> | % Correct |
|--|----------------|------------------|------------------|-----------------------|-----------|
| All questions from Part 1 <sup>e</sup>               | 63             | 2                | 11               | 7.5±2.21              | 58.50%    |
| Purpose of the DGA                                   | 63             | 0                | 3                | 1.7±0.7               | 56.70%    |
| Development of the DGA                               | 62             | 0                | 4                | 2.2±0.8               | 55.00%    |
| Five Guidelines and Key Recommendations from the DGA | 55             | 1                | 6                | 3.8±1.3               | 63.30%    |
| All questions from Part 2 <sup>f</sup>               | 58             | 3                | 8                | 7.2±1.7               | 80.00%    |
| General information about sodium                     | 58             | 0                | 1                | 0.5±0.5               | 50.00%    |
| Recommended and average sodium intakes               | 58             | 0                | 2                | 1.3±0.7               | 65.00%    |
| Prominent sources of sodium                          | 58             | 1                | 5                | 3.3±1.2               | 66.00%    |
| Strategies to reduce sodium intake                   | 58             | 0                | 1                | 0.9±0.3               | 90.00%    |

<sup>a</sup>n = Total number of Interns responding

<sup>b</sup>Min = minimum participant score

<sup>c</sup>Max = maximum participant score

<sup>d</sup>SD = standard deviation

<sup>e</sup>Part 1 = DGA questions on overall knowledge

<sup>f</sup>Part 2 = DGA questions for sodium

TABLE 2. Correlations- Pearson's R Values of Self-Efficacy, Belief, and Sodium Intake Behaviors with Knowledge of the 2015 Dietary Guidelines for Americans (DGA), n = 58

| Variable               | Pearson's R Values      |                         |
|------------------------|-------------------------|-------------------------|
|                        | Overall Knowledge       | Sodium Knowledge        |
| Self-Efficacy          | $R = 0.324, P = 0.01^*$ | $R = 0.288, P = 0.03^*$ |
| Belief                 | $R = 0.092, P = 0.49$   | $R = 0.106, P = 0.43$   |
| Sodium Intake Behavior | $R = -0.112, P = 0.40$  | $R = -0.21, P = 0.11$   |

\*Statistically significant at  $p < 0.05$

TABLE 3. One-Way ANOVA- Results for Knowledge of the 2015 Dietary Guidelines for Americans (DGA) by Eating Pattern, n = 58

|           | U.S.                 | Mediterranean | Vegetarian or Vegan | Other/Primarily GMO <sup>a</sup> -free | F     | P     |
|-----------|----------------------|---------------|---------------------|--|-------|-------|
| Knowledge | Mean±SE <sup>b</sup> | Mean±SE       | Mean±SE             | Mean±SE                                |       |       |
| Overall   | 7.4±0.37             | 8.1±0.60      | 7.4±0.87            | 7.6±1.33                               | 0.218 | 0.883 |
| Sodium    | 7.2±0.26             | 7.0±0.52      | 7.4±1.12            | 7.0±0.84                               | 0.093 | 0.963 |

\*Statistically significant at  $p < 0.05$

<sup>a</sup>GMO = genetically modified organisms

<sup>b</sup>SE = standard error

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