Exploring the Nutrient Intake of Female College Students following a Vegetarian or Vegan Diet

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Background

- A vegetarian diet is defined as avoiding meat products, and in some cases, eggs or dairy. A vegan diet is defined as the absence of all animal products from the diet[1].
- Plant-based diets may lack key nutrients due to the restriction of animal products, such as vitamin B_{12} and iron. In addition, calcium and vitamin D intakes are limited in most American diets[2].
- RDA's (Recommended Dietary Allowances) are daily intake levels recommended to meet the needs for most people[3].

Methods

- Data collected from 2020-21, using the College Health and Nutrition Assessment Survey, an ongoing cross-sectional study at a public northeastern university (UNH IRB #5524).
- Participants self-reported a vegetarian or vegan dietary pattern in online questionnaire (Qualtrics).
- Vegetarian/vegan students were randomly matched (1:2) according to age, BMI group, major, smoking status, and living accommodations.
- Nutrient intake was calculated from 3-day food records and assessed via online nutrient analysis software (Diet and Wellness+).
- Vit D, vit B_{12}, iron, and calcium were categorized using respective age-specific RDAs for females.
- Differences between dietary patterns and meeting RDA intake was measured using chi-square ($p < .05$). Mean differences between nutrient intake were examined using independent t-tests ($p<.05$ and CI 95%). ANCOVA was used to analysis nutrient intake, using eating competence and vitamin supplementation as covariates, ($p<.05$).
- Eating competence was assessed by the Satter Eating Competence Model (ecSatter)[4] to address the relationship and feelings towards foods.

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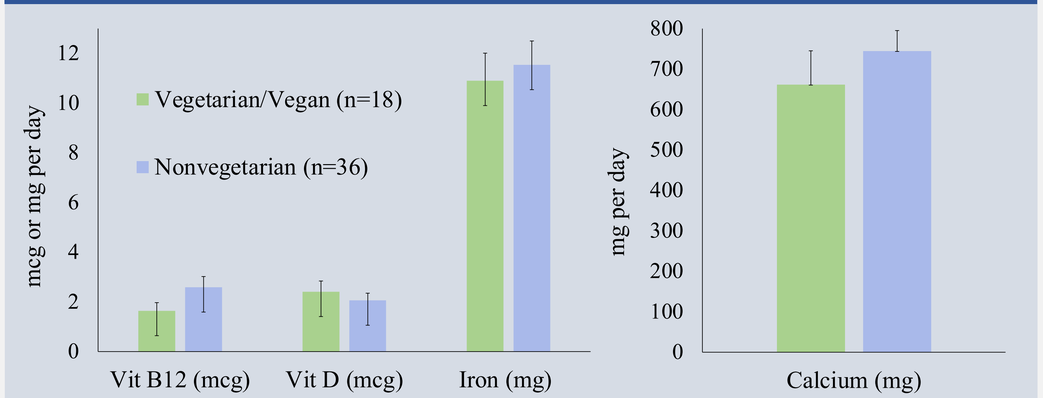
Purpose

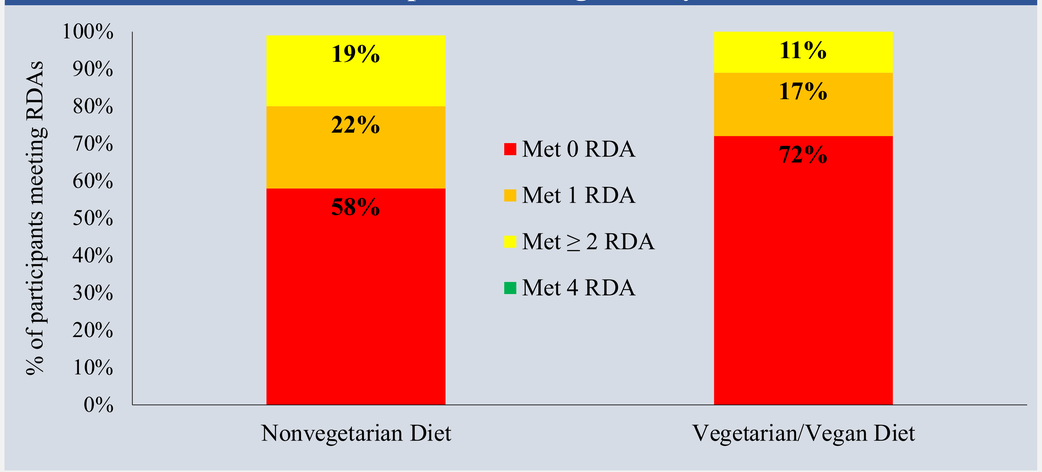
Compare the dietary intake and nutrients of concern between female students who consume a self reported vegetarian or vegan diet to matched students not following any plant-based diet.

Subject Characteristics	Vegetarians (n=18)	Nonvegetarians (n=36)
Age (years)	19.4 ± 1.1	19.3 ± 0.9
% white	94% (n=17)	100% (n=36)
BMI (kg/m2) ± SE	22.4 ± .9	22.4 ± .6
% First Year	22% (n=4)	22% (n=8)
% Allied Health/Nutrition Major	17% (n=3)	8% (n=4)
Mean ecSatter Scores ± SE	29.4 ± 2.6	29.8 ± 1.5

Mean Intake of Vitamins and Minerals



% Participants Meeting RDA by Diet



Key Findings

- Most students failed to meet the requirements of four key nutrients (vit D, B_{12}, calcium, or iron).
- No differences were seen in meeting nutrient requirements between vegetarian and nonvegetarian students.

Results

- Of the final sample, (n=177), **10.2%** (n=18) of females reported following a vegetarian or vegan diet.
- For both groups, **100% of participants failed to meet recommendations for vit D**, 85.2% for calcium, 87% for iron, and 68.5% for vit B_{12} (all $p>.05$).
- Collectively, 72% and 58% of vegetarians and non-vegetarians, respectively, failed to meet any of the RDAs ($p=.562$).
- Supplement use was evaluated: multivitamin (n=8), vit B (n=2), and vit D (n=2).

Implications

Findings demonstrate the need for nutrition education for young adults regardless of their reported dietary patterns, as most students aren't meeting the RDAs for key nutrients.

Acknowledgements

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References

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