Nutrient Intake and Dietary Recommendation Adherence among US Workers

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A person’s occupation has been associated with obesity and other chronic health conditions as well as some lifestyle behaviors. However, little is known regarding the relationship between occupation and nutrient intake, despite the strong link between nutrition and chronic disease and poor overall dietary habits across the US population. This study assessed nutrient intake according to dietary guidelines by occupational group in workers using a nationally-representative sample of the US population.

A sample of 5,603 respondents aged 17 and older was pooled from the 1999-2004 National Health and Nutrition Examination Survey. This representative sample of non-institutionalized US civilians was asked to complete two 24-hour recall dietary interviews to assess daily intake of protein, carbohydrate, fat, cholesterol, calcium, sodium, and fiber. Participants were classified into four occupational groups: (1) white collar, (2) service worker, (3) farmer, and (4) blue collar. Participants were dichotomized as being either “adherent” or “non-adherent” to the guidelines for each of the nutrients. The following values were used as guidelines: (1) protein 10-14% of daily calories, (2) carbohydrate 52-64% of daily calories, (3) total fat ≤ 30% of daily calories, (4) saturated fat ≤ 10% of daily calories, (5) fiber ≥ 25 g/day, (6) cholesterol ≤ 300 mg/day, (7) calcium ≥ 1,000 mg/day, and (8) sodium ≤ 2,000 mg/day. Analysis of covariance with pairwise comparisons was used to evaluate the mean values of all nutrients. Logistic regression was used to calculate the percent and standard errors.

US workers display statistically significant differences in their nutrient intake across occupational groups, with poor eating behaviors evident across all groups. Fiber is particularly poorly consumed, as less than 5% of all workers meet the recommendations. For the remaining nutrients (sodium, calcium, carbohydrate, total fat, and protein), only 18%-34% of workers were adherent to the daily recommendations.

Purpose
- A person’s occupation has been associated with obesity and other chronic health conditions as well as some lifestyle behaviors. However, little is known regarding the relationship between occupation and nutrient intake, despite the strong link between nutrition and chronic disease and poor overall dietary habits across the US population.

Methods
- A sample of 5,603 respondents aged 17 and older was pooled from the 1999-2004 National Health and Nutrition Examination Survey. This representative sample of non-institutionalized US civilians was asked to complete two 24-hour recall dietary interviews to assess daily intake of protein, carbohydrate, fat, cholesterol, calcium, sodium, and fiber.

Results
- Nutrient intake varied by occupational group, particularly for fiber, sodium, calories, percentage of calories for protein, saturated fat, and carbohydrate, however the differences between groups were not clinically significant. Adherence to dietary recommendations was noted for saturated fat and cholesterol across groups, but workers were poorly adherent to recommendations for all other nutrients. Less than 5% of all workers were adherent to the daily recommendation for fiber. For the remaining nutrients (sodium, calcium, carbohydrate, total fat, and protein), only 18%-34% of workers were adherent to the daily recommendations.

Conclusion
- US workers display statistically significant differences in their nutrient intake across occupational groups, with poor eating behaviors evident across all groups. Fiber is particularly poorly consumed, as less than 5% of all workers meet the recommendations. Strategies to promote adherence to dietary recommendations customized to worker settings are needed to improve nutritional behaviors of US workers.