



The Association Between Regular Access to a Primary Healthcare Provider and Ability to Maintain a Healthy Diet



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Introduction

- Health is determined by a person's individual characteristics and behaviors, physical environment, and socioeconomic environment (WHO, 2017), and without additional guidance or counsel from a physician or primary healthcare resource that can provide resourceful information regarding personal nutrition, those circumstances could lead to further health issues.
- Less guidance on personal nutrition can make an individual and their family more likely to develop poor nutrition habits and therefore, a higher risk of dealing with larger nutrition-related health issues later in life, such as diabetes or coronary heart disease (Heval, Kim, Tahhan, Quyyumi).
- Although there are many socioeconomic factors that impact the relation between regular access to a primary health care provider and one's ability to maintain a healthy diet, insurance coverage, and further, financial situation are two main elements that demonstrate a correlation.
- Research shows that accessibility to health care is tied to the affordability of insurance (National Academies Press [US]).

Methods

Sample

- Data were drawn from Wave 4 (n=15,701) of The U.S. National Longitudinal Survey of Adolescent Health (AddHealth).
- AddHealth a representative survey of adolescents in grades 7-12 in the United States that were followed over time.
- AddHealth Wave 4-Inhome included participants with birth years ranging from 1974 to 1983.

Measures

- The health care and insurance coverage module, Section 5, of AddHealth Wave 4 contains detailed questions on the frequency, status, and implications of health care visits and insurance status.
- The health and diet module, Section 4, of AddHealth Wave 4 contains detailed questions of the frequency, quantity, and patterning of nutritious or unhealthy diets, as well as indicators of reliance on fast food, especially in context of the presence of a population subset living within food deserts.
- Financial questions examined in the present analysis were measured with the question (Thinking about your income and the income of everyone who lives in your household and contributes to the household budget, what was the total household income before taxes and deductions in {2006/2007/2008}? Include all sources of income, including non-legal sources.)

Research Questions

- Is irregular access to a primary healthcare provider associated with inability to maintain a healthy diet after controlling for household income level?
- Does the association between frequency/general healthcare accessibility and quality of food consumed differ for those of a lower household income level?

Results

Univariate

- 24.57% of the sample consumed fast food once in the past seven days.
- 24.11% of the sample had a routine check-up within the past 3 months, which is the most recent option. The second highest percentage of the sample (21.43%) has had a routine check-up 2 years ago or longer.
- Middle to upper-middle class incomes (\$30,000-\$149,999) make up 44.72% of the sample, and a majority of the largest percentages.

Bivariate

- ANOVA analysis showed that there is only one instance of statistical significance between between how many times in the past seven days subjects ate food from a fast food restaurant and how long ago the subject had a routine check-up. 7-9 months since last-check up when compared with times per week fast food was consumed had a p-value of 0.013.
- ANOVA analysis demonstrated that those who ate fast food multiple times during the week (Mean=3.35, s.d. \pm 31.39) had no significant association to time since last routine check-up doctor's visit and significant evidence of group difference, (Mean=3.49, s.d. \pm 1.95), $F=1.41$, $p=0.207$.
- Values for mean times eaten fast food in the past week ranges from 0 to 55, representing each time that fast food has been consumed, omitting numerical values 5-40 for significance purposes.
- Those who had their last routine check-up 2 or more years ago had a tendency to eat fast food 2.7 times a week on average, approximately 0.8 more times than the mean of those who had a check-up 7-9 months ago (1.9) (Figure 2).
- It is important to note that the ANOVA analysis findings contrast the original hypothesis.

Multivariate

- A multiple linear regression shows that household income level is not significantly associated with regularity of a routine check-up, but household income level is the confounding variable between quantity of fast food consumed per week and time since last routine check-up.
- Compared to those whose last check-up was within the last 3 months, those who had a routine check-up 7-9 months ago are 0.46 times less likely to maintain an unhealthy diet.
- However, those who had a routine check-up more than 2 years ago are 0.24 times more likely to maintain an unhealthy diet than those who had a check-up less than 3 months ago.
- The interaction between times fast food was eaten in the past week and how long ago the subject had a routine check-up was not statistically significant when modifying for total household income (p-value=0.057).
- At lower levels of time since check-up, individuals who had a routine check-up were less likely to have an unhealthy diet compared to those who had a routine check-up 2 or more years ago and those who never reported a routine check-up.
- There is no general trend of times less or more likely, yet there is a shift in the findings indicating that there is a time since last check-up in which likelihood of unhealthy diet increases.

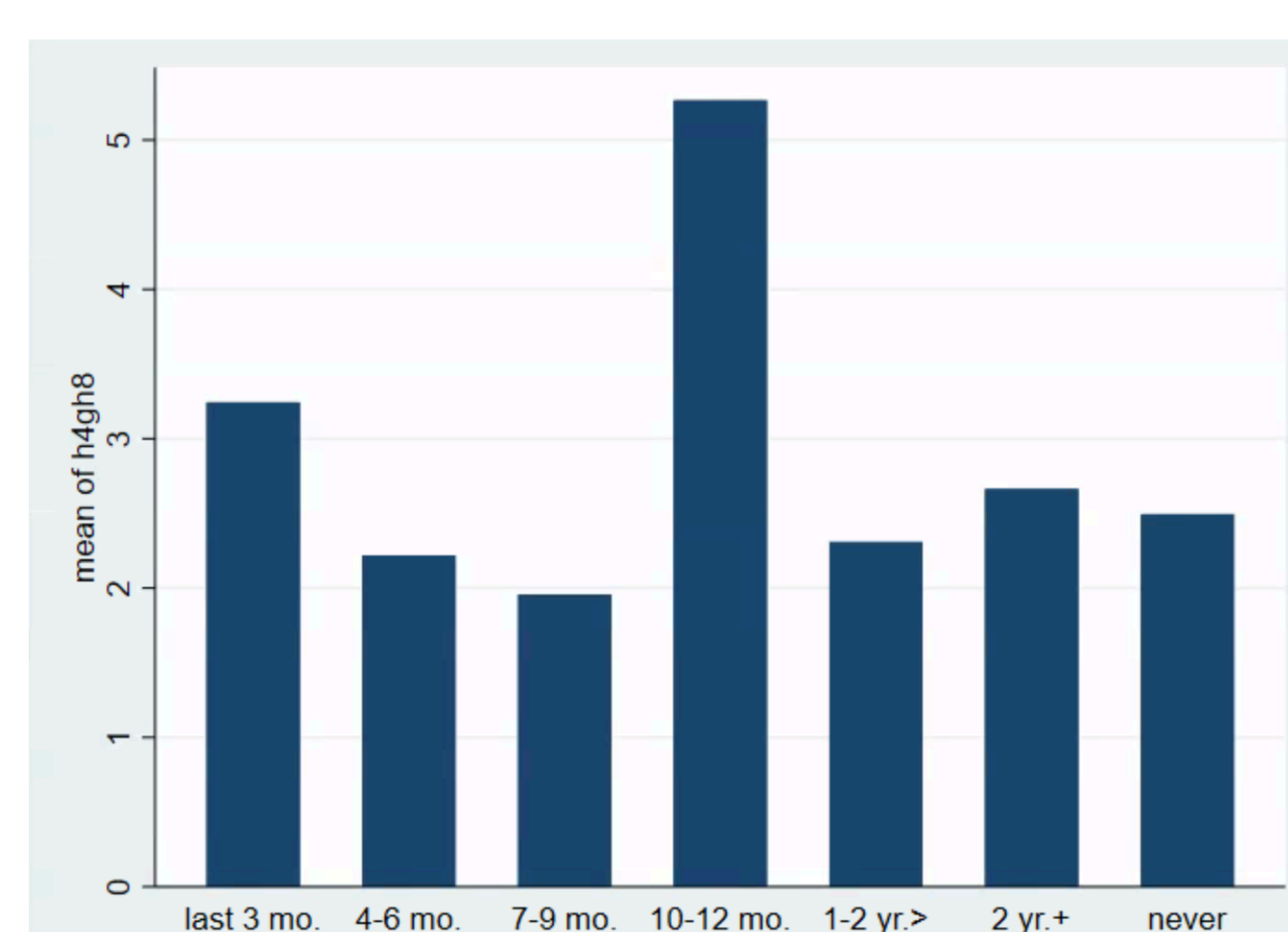


Figure 1: Mean Times per Week Fast Food Is Consumed by How Long Ago the Subject Had A Routine Check-Up With Subjects Reporting More Than 14 Fast Food Consumptions per Week

Discussion

- Irregular access to a primary healthcare provider is not significantly associated with inability to maintain a healthy diet, or total household income in individual bivariate testing.
- Irregular access to a primary healthcare provider is not significantly associated with inability to maintain a healthy diet after controlling for total household income.
- Notably, the present findings are based on a limited sample in a cross-sectional study and do not reflect the immediate healthcare and financial situations of those who consume fast food over seven days.
- Further research is needed to determine whether there is a time since last check-up in which likelihood of unhealthy diet increases based on fast food consumption patterns.

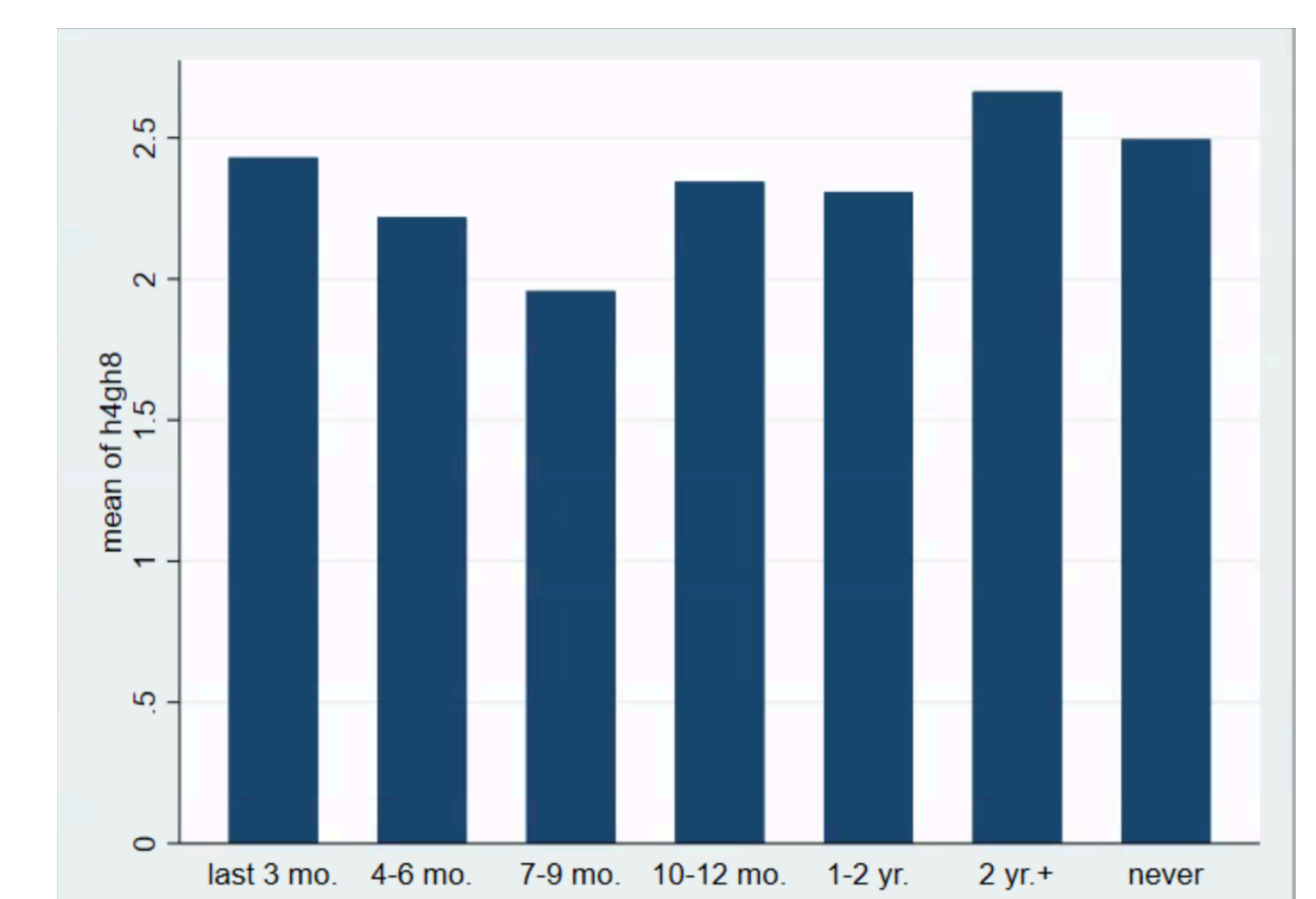


Figure 2: Mean Times per Week Fast Food Is Consumed by How Long Ago the Subject Had A Routine Check-Up,

Kelli, H., Heval M. Kelli Division of Cardiology, Kim, J., Jeong Hwan Kim Division of Cardiology, Tahhan, A., Ayman Samman Tahhan Division of Cardiology, Quyyumi, (2019, February 11). Living in Food Deserts and Adverse Cardiovascular Outcomes in Patients With Cardiovascular Disease. Retrieved from <https://www.ahajournals.org/doi/10.1161/JAHA.118.010694#:~:text=Living%20in%20a%20food%20desert,traditional%20cardiovascular%20risk%20factor%20burden>.
Magge, H., Cabral, H., Kazis, L., & Sommers, B. (2013, September 1). Prevalence and predictors of underinsurance among low-income adults. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3744314/>.
Sciences, N., Engineering, & Medicine, A. (2018, March 01). Factors That Affect Health-Care Utilization. Retrieved from <https://www.ncbi.nlm.nih.gov/books/NBK500097/>