The Association Between Diet and Exercise Activity on General Health

Manveer Dhillon, Selena Hennessey
California State University, Chico

Introduction/ Abstract

General health is universally important since personal health has an effect on everyday life. Diet and exercise and their relationship to general health have been compared in many studies; Results show that a combination of physical activity along with a healthy diet will produce the best results in terms of general health.

Poor health is linked to many physical and mental diseases that can greatly reduce the quality of life, while a healthy whole foods diet combined with frequent exercise activity leads to excellent general health. Options like sweetened drinks and fast food meals with little to no activity will worsen general health(Wu, 2009). This study will analyze the relationship between a person's general health and their diet and exercise.

Methods

•Data was taken from the Addhealth: Wave 4 In-Home Interview Codebook. Data set used 6,504 participants that age from 24 to 32 years.

•The data was collected through a 90 minute interview in which questions were asked by an interviewer or computer.

•Modifications made to the data:
- Unreasonable outliers were removed, such as claiming to consume anywhere from 99 to 996 meals per week.

- Statistical analyses used:
  - T.test, Chi-squared test of association

- Confounding factors:
  - Vigorous activity participation was tested as a confounding factor.

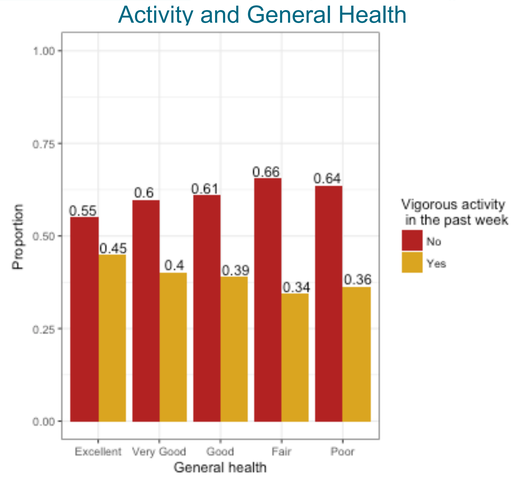
- Variables that were used in this study:
  - General health and diet
  - Sweetened Drink consumption
  - Fast Food Consumption
  - Vigorous Activity Participation

Sample Characteristics

Variable:	N:	%:
General Health	5114	
Excellent	979	19.0
Very Good	1963	38.0
Good	1683	33.0
Fair	434	8.0
Poor	55	1.0
Participation in Vigorous Activity	5111	
Yes	2055	40.0
No	3056	60.0
	Mean:	Standard Deviation:
Sweet Drink Consumption	14.22	589.0
Fast Food Consumption	2.33	536.7

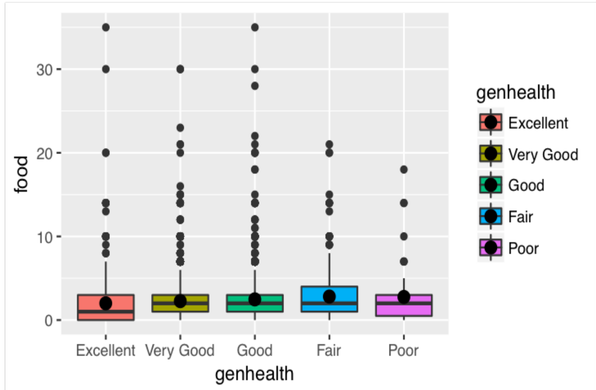
Results

Bivariate Model: Relationship between Vigorous Activity and General Health



- As General health status decreases, proportion of people who don't participate in weekly vigorous activity increase and as health status increases, the number of people participating in activity increases.
- P-value = 0.0023

Multivariate Model: Relationship between Fast Food Intake and General Health



- As general health status increases, the average number of fast food consumption decreases.

Discussion

- After conducting a T. Test and a Chi-square test on the different variables in our research study, there is sufficient evidence to suggest that diet and exercise does have a relationship with general health, this supports the hypothesis

Discussion

•After examining the relationship between general health and vigorous activity, it was discovered that a persons participation in vigorous activity directly affects their general health. It can be seen that as the health status is getting worse the proportion of people who don't participate in vigorous activity increase.
•Ex: 55% of people with excellent don't participate in activity, whereas for poor health this number is 64%.
•After examining the relationship between sweet drinks consumption, fast food intake and general health , it was discovered that the amount of sweetened drinks consumed weekly is significantly associated with fast food intake. (p-values < .001) General health is significantly associated with fast food intake, the average fast food intake increases as reported general health decreases.
•Those who have a healthy diet tend to have a better health status than those who eat a poor diet consisting of fast food and sugary beverages. People who a active on a daily basis tend to be more healthy than those who don't participate in vigorous activity. Even those who might not have a healthy diet but are regularly active have better health than those who are eating poorly and not exercising.

Implications

- This study can be helpful to those who are trying to make a change in their lifestyle. Findings of this study show how different factors such as diet and exercise can affect how healthy or unhealthy we are.
- This can aid those who want to use this information in future research ideas for example, conducting a study on obesity in our country.

References
•Warburton, D., Nicol, C., Bredin, S. (2006) Health benefits of physical activity: the evidence. CMAJ, 174 (6). Retrieved from http://www.cmaj.ca/content/174/6/801.short
•Wu, T., Gao, X., Chen, M., Van Dam, R. (2009). Long-term effectiveness of diet-plus-exercise interventions vs. diet-only interventions for weight loss: a meta-analysis. Wiley Online Library, 10 (3). Retrieved from http://onlinelibrary.wiley.com/doi/10.1111/j.1467-789X.2008.00547.x/full