College Students' Perceived Risk of Diabetes and Associated Factors

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Introduction

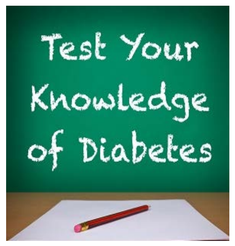
- Prevalence of diabetes is 9.4% and 14.5% in the US and West Virginia, respectively.
- Late adolescents(ages15-17 years), early adults (ages 20-24), and young adults (ages 26-31) are 21% of the total US population[1].
- Only a small percentage of this population adopts a healthy lifestyle[2].
- Unhealthy lifestyle and lack of knowledge of chronic diseases during this time can lead to early onset of diabetes.
- It is important to assess knowledge and perceived risk of diabetes among university students.

Objectives

- To assess diabetes-related knowledge and perceived future risk among students at West Virginia University (WVU).

Methods

- ***Study Design***: A cross-sectional survey of WVU students in Spring 2018.
- ***Data Collection:*** Multiple data collection methods were used to improve the response rate: online email invitation, flyers and advertisements on the WVU notice boards throughout the three campuses.

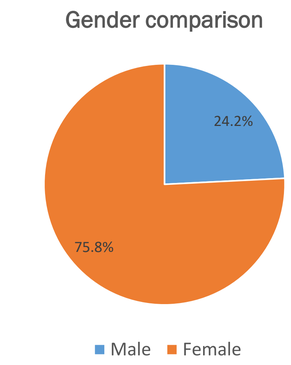


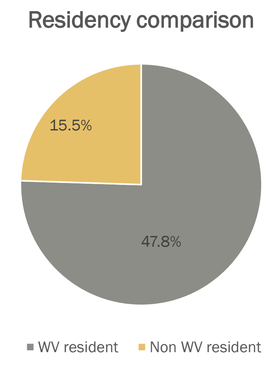
- Measures: Demographic information, health behavior, perceived health status, knowledge of diabetes and its risk factors, symptoms, diagnosis & treatment, complications & prevention of diabetes.
- Perceived risk of developing diabetes in the future: A single-item question with response options: 1 =no risk to 5= high risk.
- Statistical analysis: First, response to the knowledge questions were summed to create a total knowledge score (range was 0 – 40).
- Descriptive information were analyzed for gender, family history of diabetes, health behavior, and perceived future risk of diabetes.
- Logistic regression: Dependent variable was perceived future risk of diabetes (o=no or low risk, vs 1=high/extremely high). Independent variables were: total Knowledge score, BMI, age, gender, family history of diabetes, knowledge of fasting blood glucose level, physical health, physical activity, reading food labels.

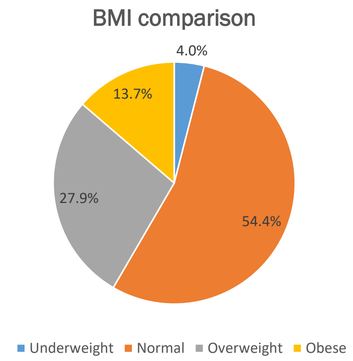
Results

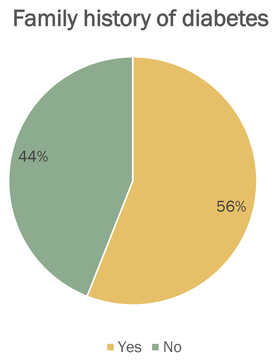
Descriptive:

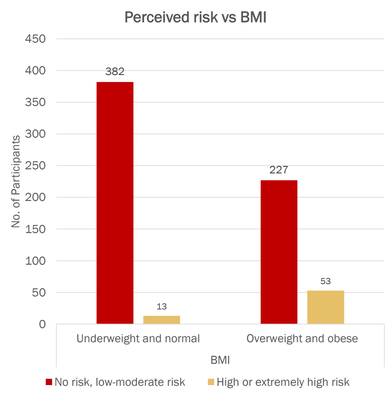
- The survey was completed by 697 participants.
- Mean age of the students was 21.91 years [standard deviation (SD) 4.48] and mean BMI was 24.9 [SD 4.96].

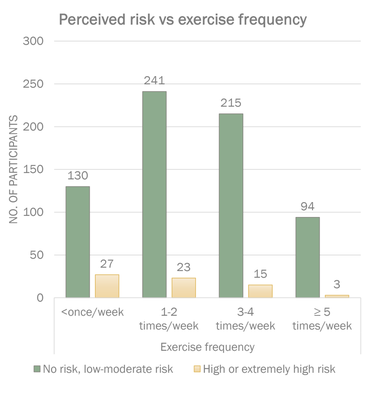


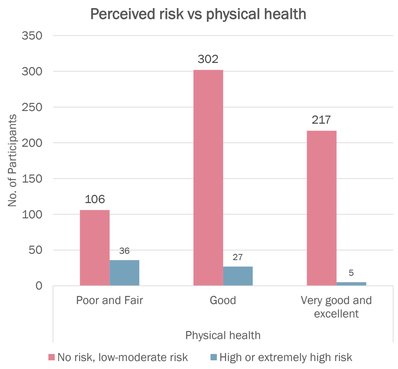


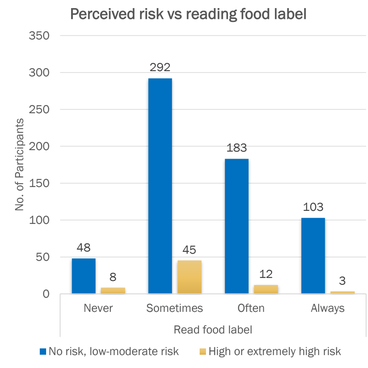












- Students who perceived higher risk of developing diabetes had higher diabetes knowledge, were obese/overweight, and had a family history of diabetes.

Predictors of Diabetes Risk

Independent variable	Perceived risk
Predictors	**OR* (95% CI)**
Knowledge score	1.06 (1.01-1.12)
BMI (overweight/obese)	4.21 (2.01-8.83)
Age	1.09 (1.02-1.17)
Gender	NS [0.62 (0.30-1.30)]
Family history of diabetes	5.48 (2.44-12.35)
Knowledge on normal blood glucose level <100mg/dl in fasting	NS [1.56 (0.81-3.01)]
Good physical health	0.37 (0.18-0.74)
Very good/excellent physical health	0.21 (0.06-0.68)
Exercise 1-2 times/week	NS [2.59 (0.62-10.81)]
Exercise 3-4 times/week	NS [1.24 (0.31-5.0)]
Exercise 5 or more times/week	NS [1.49 (0.38-5.93)]
Read food label sometimes	NS [0.71 (0.25-2.00)]
Read food label often	NS [0.45 (0.13-1.54)]
Read food label always	0.20 (0.04-0.98)

*Odds Ratio (OR) calculated from logistic regression analysis; CI = 95% Confidence Interval; NS = Not Significant

- Students who perceived a lower risk of developing diabetes self-rated their health status to be good/very good/excellent health, and always read food label.

Discussion and Conclusions

- Type 2 diabetes has changed from a disease of adults to children and young adults.
- While the risk factors is the same i.e., insulin resistance and beta cell failure, perhaps the most significant factor is obesity and lifestyle factors.
- Despite the increasing incidence and prevalence, effective education on role of lifestyle such as nutrition and physical activity is limited in school and college physical education curriculums.
- Improving knowledge among high-risk students can delay the early onset of diabetes.
- Health education programs should promote the principles of good health and the devastating role of preventable chronic diseases in children and young adults.
- Academic institutions should consider these while planning health education programs for the students.

Reference:

1. Henry J Kaiser Family Foundation. Population Distribution by Age. 2018; https://www.kff.org/other/state-indicator/distribution-by-age/.
2. Lawrence E, Mollborn S, Hummer R. Health Lifestyles across the Transition to Adulthood: Implications for Health. Social science & medicine (1982). 2017;193:23-32.

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