Prevalence of Obesity in the Arab American Community in Michigan

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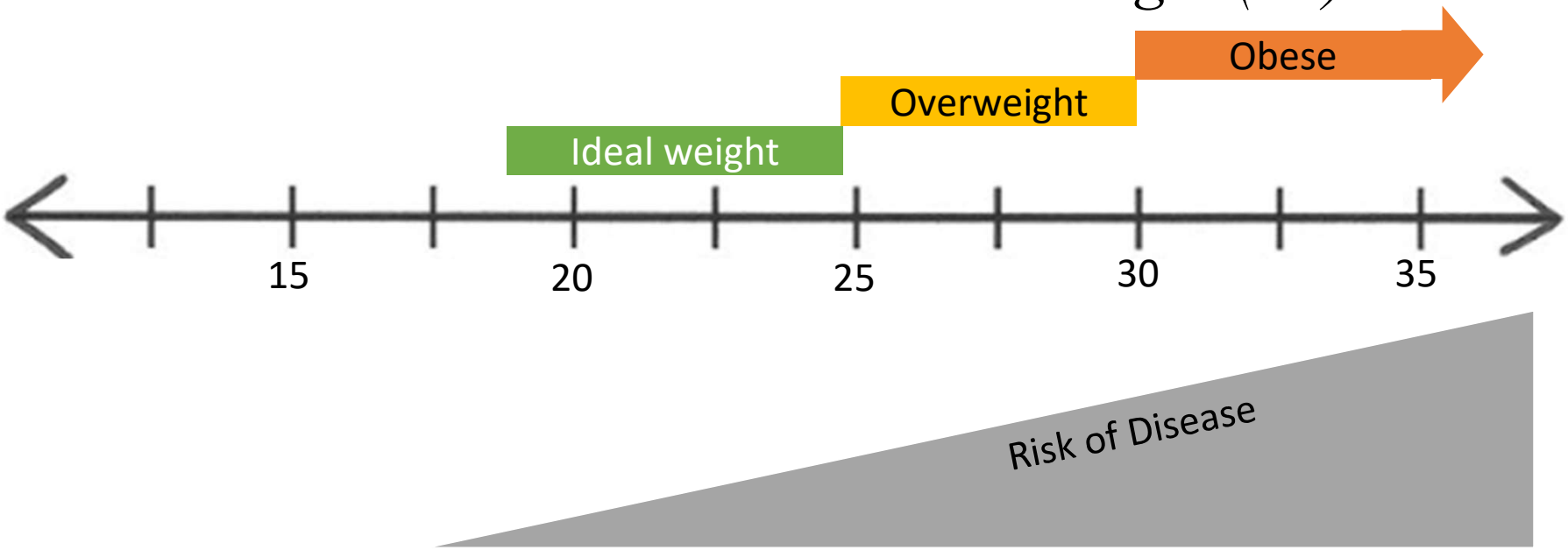
Obesity

- Definition: *the chronic condition of having excess body fat*
- Body Mass Index (BMI) = $\frac{weight\ (kg)}{height\ (m^2)}$



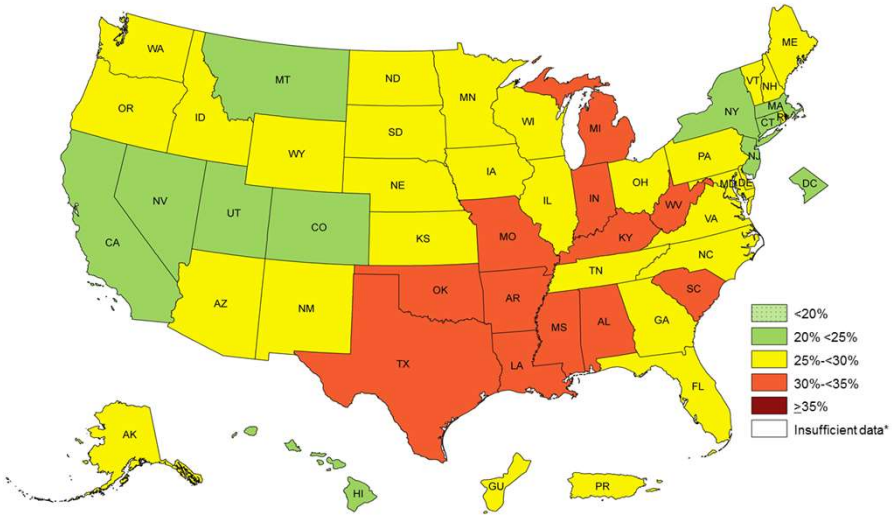
Why study obesity?

- Rapidly increasing prevalence in U.S.
- Significant effects on health
  - Cardiovascular disease, stroke, type II diabetes, cancer, mental illness
- Growing cost
  - In 2008, estimated medical cost of obesity was $147 billion
  - Obese individuals paid, on average, $1,429 more than those of healthy BMI

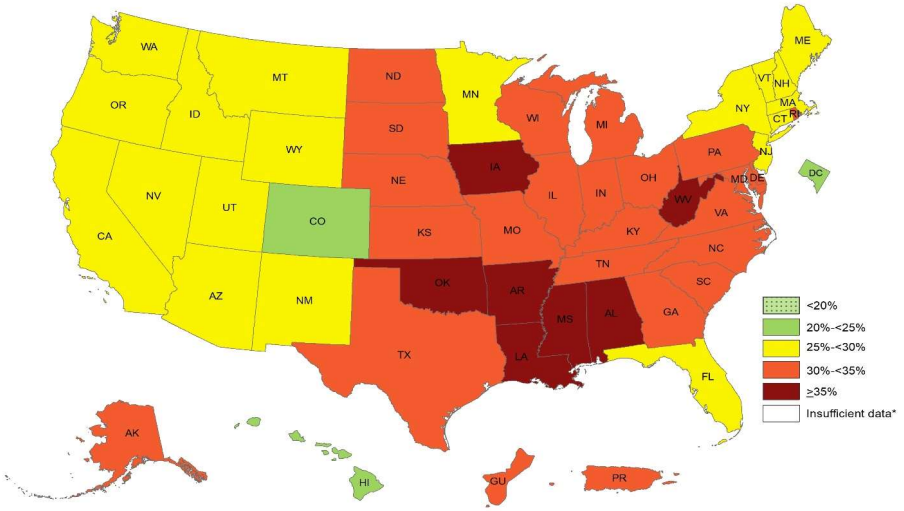
Obesity affects every facet of one's health and is ultimately preventable through lifestyle modifications.

Prevalence of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS

2011



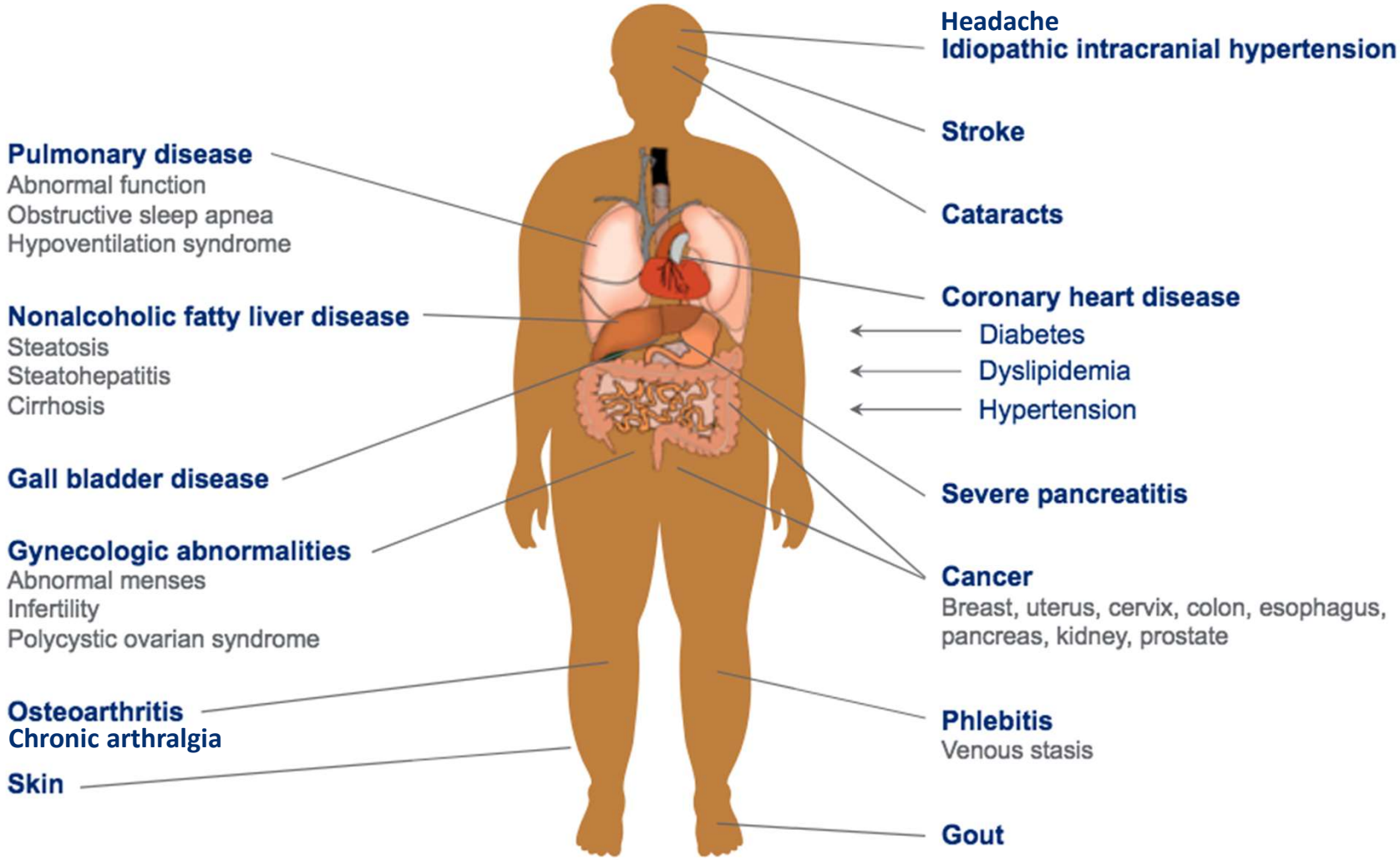
2017



***Sample size <50 or the relative standard error (dividing the standard error by the prevalence) ≥ 30%.**

Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.

Obesity increases patients' risk for:



In addition to: AKI, renal failure, neuropathy, chronic back pain, acne, depression, and anxiety

Why study obesity in Arab Americans?

- Arab Americans constitute ~5% of Michigan's population
- Arab Americans reside in 82 of the state's 83 counties
- Major concentration of Arab Americans in southeast Michigan
  - Dearborn has the largest percentage of Arab Americans of any city in the United States (ACCESS clinic)
- Arab Americans are an understudied population in medicine
  - This is the first grant-funded study on obesity in the Arab American community

It would be helpful to know how our unique culture, food, and traditions play a role in Arab American obesity rates. Furthermore, it would be interesting to compare obesity rates among different ethnic groups in the United States.

Obesity in the United States

- 39.8% Obesity Prevalence in U.S.
  - ✧Hispanic Americans – 47%
  - ✧Non-Hispanic African Americans – 46.8%
  - ✧Non-Hispanic European Americans – 37.9%
  - ✧Asian Americans – 12.7%
  - ✧Arab Americans – no data

- This project aims to fill this gap in the medical literature

Methods

- IRB was obtained from Wayne State University
- NAAMA NextGen students helped extract data from ACCESS

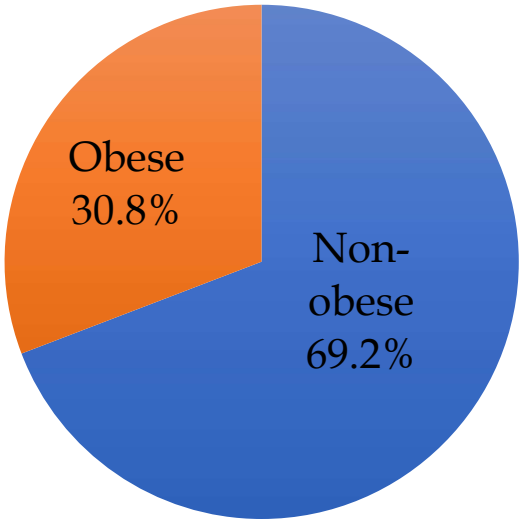
- Participants:
  - Adult Arab Americans ranging from 18 to 80yo
  - Exclusion criteria:
    - Arab Americans <18yo
    - Pregnant Arab Americans

Methods

- Retrospective, cross-sectional study
- Medical record abstraction from ACCESS community clinic
- Michigan population obesity data was obtained from Michigan Behavioral Risk Factor Survey 2016
- Parameters collected:
  - Height, weight, PMHx – HTN, DM, HLD, Social Hx – tobacco, alcohol, drugs
- Cohort: 894 individuals

	Sample	Mean Age	Mean BMI
Males	360	39	28.1
Females	534	35	27.4

Results



Obesity rate in Arab Americans: 30.8%
Obesity rate in Michigan population: 32.9%

Results show that there is no significant difference in Arab American obesity rates compared to Michigan obesity rates (p=0.195)

Results

Percentage of obesity – stratified by gender

	Male [# of indv (%)]	Female [# of indv (%)]
Michigan	1698 (32.8%)	1962 (33.0%)
Arab American	122 (33.9%)	153 (28.7%)
p-value	0.685	0.043

- Results show that Arab American female obesity rates are **significantly lower** that those of Michigan females
- Analysis shows that Arab American females are 18% **less likely** to be obese compared to Michigan females

Results

Percentage of obesity – stratified by age (years old) groups

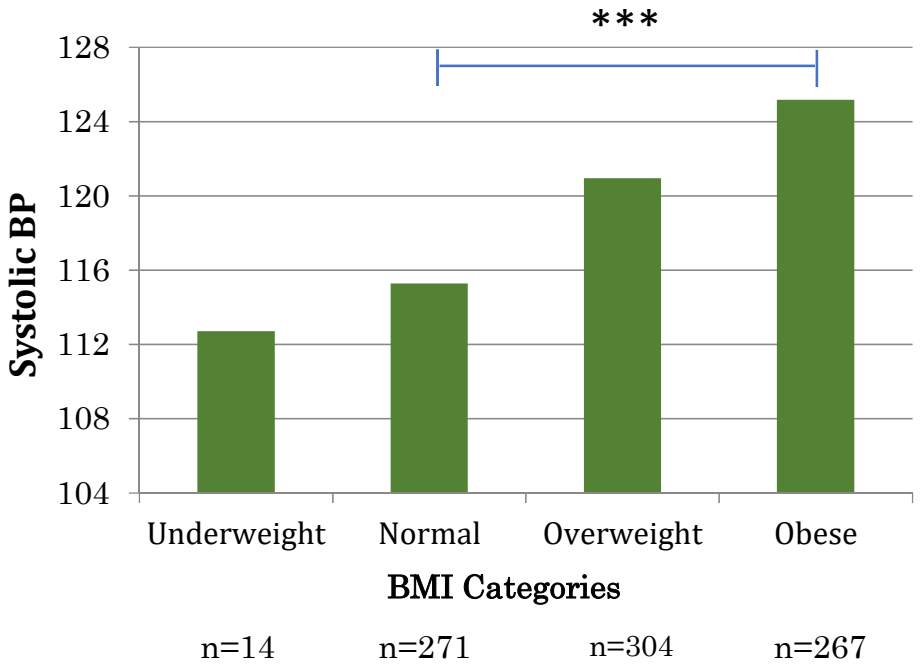
	18-24yo [# of indv (%)]	25-34yo [# of indv (%)]	34-44yo [# of indv (%)]	45-54yo [# of indv (%)]	55-64yo [# of indv (%)]	65+yo [# of indv (%)]
Michigan	167 (21.3%)	318 (28.4%)	484 (38.7%)	656 (36.2%)	860 (35.2%)	1175 (31.7%)
Arab American	122 (33.9%)	153 (28.7%)	30 (17.5%)	60 (22.4%)	95 (39.4%)	85 (41.3%)
p-value	0.0001	0.954	0.0001	0.0001	0.204	0.006

- Arab American adults **18-24yo** and **≥65yo** have **significantly higher** obesity rates compared to Michigan adults of similar age groups
- Arab American adults **34-54yo** have **significantly lower** obesity rates compared to Michigan adults of similar age groups

Results


Obesity in MI by Age Group
45
40
35
30
25
20
15
10
5
0
% Obese
18-24
25-34
34-44
45-54
55-64
65+
Age (years)
Michigan
Arab American

Results – BP



- Systolic BP was significantly higher in obese individuals compared to individuals with healthy BMI ($p<0.001$)

Limitations and Future Directions

- Working with paper charts
- Study is a work in progress

- Interesting to see how data from Michigan compares to that of other Arab American communities across U.S.
  - California
  - Georgia
  - Texas
  - New Jersey

Acknowledgments

- Suma Alzouhayli
- ACCESS community clinic and WSU student clinic
- Student researchers that helped with data extraction, organization, and consolidation
- Ibrahim Tsolakian, M.D.
- Nabil Rahoui, M.D.
- Joseph Trak, M.D.
- NAAMA and NAAMA NextGen
- Rouba Ali-Fehmi, M.D.

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Thank you!