

Disparities in Diabetes Mellitus Control Between Men and Women- A1C as proxy



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Introduction:

In 2015, 30.3 million Americans, or 9.4% of the population, had diabetes. ⁽¹⁾ This condition also causes a large burden on the health care economy with \$327 billion total costs of diagnosed diabetes in the United States in 2017 with \$90 billion in reduced productivity. ⁽¹⁾

Many researchers have attempted to illustrate the gender disparities of DM control and possible reasons for their causes. Some found women to have had better control, ⁽²⁾ while others found men to have better control. ^(3,4) While some studies have reported women having lower HbA1c scores due to an increased frequency of appointments, ⁽²⁾ other articles have noted men having lower HbA1c scores due to having better coping strategies. ⁽⁴⁾ Other disparities have also been noted between men and women: It was found that men receive more oral combination drugs, ACE inhibitors and calcium channel blockers in the presence of coronary heart disease. ⁽⁵⁾

Gender disparities have been discovered between cares that men and women receive but why these exist is still in question: physician influence, socioeconomic status, hormonal influence are thought to be some of the reasons.

Objectives:

To assess if gender disparities in DM control existed in our patient population to see if we need to further assess the causes for these disparities.

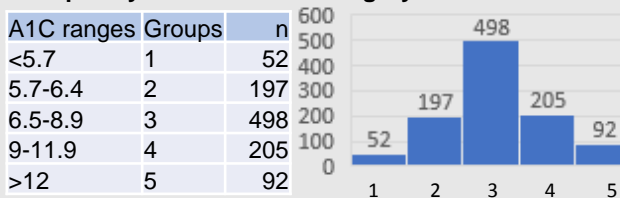
Methods:

- Sample: Whittier clinic patients with a measured A1C between January 2018 to December 2018.
- Used descriptive statistics to measure the age ranges, number of men and women. Average statistics to measure average of A1C in men and women.
- T-test with two samples is used to find any significant difference in average A1C between men and women.

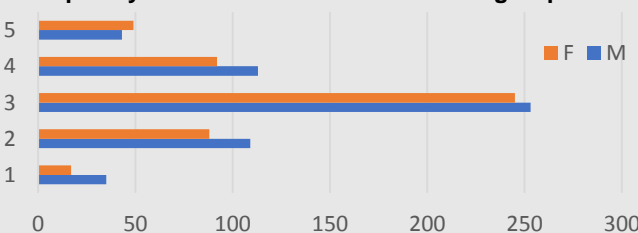
Results:

Female	491	n=1044
Male	553	

Frequency based on A1C category



Frequency based on Gender in each A1C group



Two sample t-test

	Female	Male
Mean	8.295112	8.085714
Observations	491	553
P(T<=t) two-tail	0.151092	

Discussion:

- Sample with almost equal men and women
- Normal distribution of A1C values
- Average A1C for total clinic sample during this period is 8.18, whereas the average A1C for Minnesota btw 2011-2012 was 7.38. ⁽⁶⁾ This higher average A1C could be due to our patient population being about half Hispanic and high underserved/underinsured population with low resources. Based on the average A1C the average blood glucose levels are around 183 mg/dl for both gender.
- Most A1C groups had marginally higher number of men, except group 5. Other studies reported higher frequency of higher A1C groups in men. ⁽⁵⁾
- There was minimal difference in average A1C found between men and women in our study, with men being higher compared to women by 0.21. However, this difference is not statistically significant. The lack of significant difference could be due to comprehensive diabetes program at Whittier clinic, which includes regular faculty, nursing, medical assistants, resident and patient educational activities. Additionally, standard workflow protocols for labs, dietician referral and medication refills also decreases the number of missed opportunities for better control of DM.

References:

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