Gender Does Not Significantly Modulate Fasting Plasma Glucose Improvements With Lifestyle Intervention In Prediabetes Participants With Versus Without A Family History Of Diabetes

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INTRODUCTION/BACKGROUND

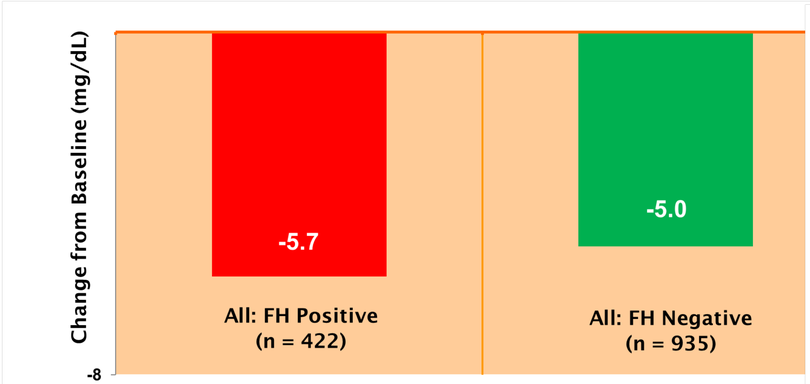
- Genetic and nongenetic factors contribute to the increased risk for type 2 diabetes in first-degree relatives of individuals with diabetes.
- Scarce and conflicting data are available on the comparative effectiveness of lifestyle intervention in men and women with versus without a family history (FH) of diabetes.
- We compared the effect of evidence-based lifestyle health coaching (LHC) on fasting plasma glucose (FPG) in prediabetes participants with and without an FH of diabetes.

METHODS

- Subjects were 1,357 consecutive individuals (age = 52±12 years) with prediabetes who completed baseline and follow-up evaluations as part of an LHC program (follow-up = ~6 months).
- Participants were stratified into cohorts on the basis of FH of diabetes and gender.
- LHC included 1-on-1 counseling, predominantly via telehealth, on exercise and nutrition. Participants remained off diabetes medication throughout the study.

RESULTS

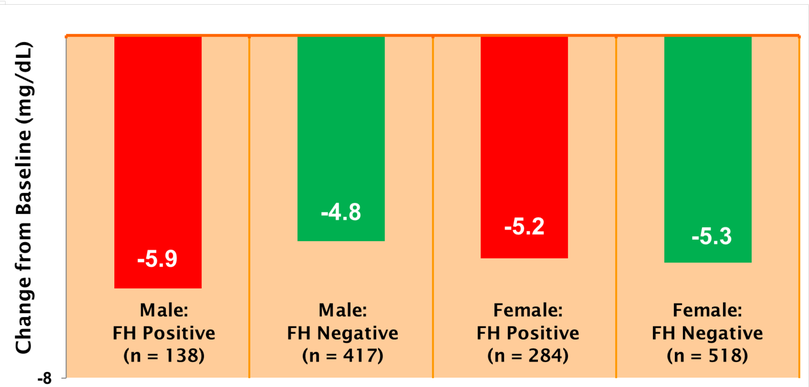
Figure 1. Change in Fasting Plasma Glucose: All



- FPG decreased significantly (p <0.001) in those with (-5.7 mg/dL; n = 422) and without (-5.0 mg/dL; n = 935) an FH of diabetes and the magnitude of decrease did not differ significantly between the two cohorts (p = 0.386) (Figure 1).
- For male participants, FPG decreased significantly (p <0.001) in those with (-5.9 mg/dL; n = 138) and without (-4.8 mg/dL; n = 417) an FH of diabetes and the magnitude of decrease did not differ significantly between the 2 male cohorts (p = 0.428) (Figure 2).
- Likewise, for female participants, FPG decreased significantly (p <0.001) in those with (-5.2 mg/dL; n = 284) and without (-5.3 mg/dL; n = 518) an FH of diabetes and the magnitude of decrease did not differ significantly between the 2 female cohorts (p = 0.920) (Figure 2).

RESULTS (cont.)

Figure 2. Change in Fasting Plasma Glucose: Gender



CONCLUSIONS

- Our study shows that an evidence-based LHC program delivered predominantly via telehealth lowers FPG to a similar magnitude in prediabetes participants with versus without an FH of diabetes. Our data also suggest that the potential impact of FH is not significantly modulated by gender.
- Considering that prediabetes is associated with a heightened risk for diabetes and for atherosclerotic cardiovascular disease, our findings have important potential implications from both a diabetes prevention and preventive cardiology perspective.

Presented at: The American Society For Preventive Cardiology 2021 Virtual Summit On CVD Prevention, July 23 – 25, 2021