

Annual Screening and Digital Behavioral Counseling in a Workplace Setting Reduce 10-year Cardiovascular Risk

Background

- Metabolic syndrome is a group of conditions that occur together and increase the risk of cardiovascular disease and diabetes.
- Digital behavioral counseling programs have been shown to reduce diabetes and cardiovascular disease risk factors.¹⁻³ These programs aim to facilitate healthy behaviors and lifestyles by combining digital devices (eg, scales, pedometers, mobile devices) with online support (eg, lessons, communities, health coaches).
- The effect of such programs on 10-year risk of atherosclerotic cardiovascular disease (ASCVD) in individuals with metabolic syndrome has not been reported.
- **Objective:** The investigators of this study examined whether a digital behavioral counseling program could reduce the 10-year risk estimate of ASCVD events among individuals with metabolic syndrome within the first year of participation.

Methods

- Study participants had to meet the following criteria:
 - Be enrolled in an annual employer-sponsored wellness program with year-end biometric screening from 2016 to 2018
 - Have metabolic syndrome at the end of 2017
 - Finish ≥ 9 lessons of a digital behavioral counseling program in 2018
- Pre-intervention (from 2016 to 2017) and post-intervention (from 2017 to 2018) changes in prevalence of metabolic syndrome, ASCVD risk factors, and 10-year ASCVD risk⁴ were calculated.
- Paired t-tests and McNemar tests were used to compare changes in ASCVD risk before versus after the program intervention.

Results

- Among the 144 participants enrolled in the intervention program, mean age was 50 years; 62% were female. Participants finished an average of 24 lessons.
- Before intervention, the mean 10-year ASCVD risk increased from 3.5% in 2016 to 4.4% in 2017. After intervention, it decreased from 4.4% in 2017 to 3.6% in 2018 ($P=0.0002$ for changes before versus after intervention).
- The percentage of study participants with 10-year ASCVD risk $\geq 5\%$ also declined from 30% before to 22% after intervention ($P=0.04$).
- The ASCVD risk factors systolic blood pressure, LDL-C, and HDL-C moved in a positive direction.
- The percentage of participants with metabolic syndrome significantly declined after intervention ($P<0.0001$).

Conclusions

- After 1 year of a digital behavioral counseling program for individuals with metabolic syndrome, 10-year ASCVD risk declined and ASCVD risk factors shifted in a positive direction, compared to the previous year.

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