

# Individuals with Metabolic Syndrome and Unrecognized Sleep Apnea can be Identified by an Employer-sponsored Healthcare Program and At-home Sleep Study

## Background

- Metabolic syndrome (MetS) consists of 3 or more of the following 5 components: abdominal obesity, high triglycerides, low HDL, high blood pressure, and high fasting glucose levels. MetS is associated with increased risk for diabetes and cardiovascular disease.<sup>1</sup>
- Between 50% and 60% of people with MetS also have obstructive sleep apnea (OSA), defined as intermittent interruption in airflow that occurs during sleep, which further increases the risk for cardiovascular disease and diabetes.<sup>2</sup> OSA can be successfully treated with continuous positive airway pressure (CPAP), which may also reduce the severity of MetS and associated cardiovascular risk.<sup>2</sup>
- Although OSA is common among people with MetS, many may not be aware they have OSA.
- **Objective:** In this study, investigators evaluated whether an employer-sponsored healthcare outreach program could help identify individuals with MetS who may have unrecognized OSA and refer them to a provider for care.

## Methods

- At an annual workplace screening, 900 individuals with MetS and possible OSA were invited to participate in an at-home sleep study.
  - A questionnaire about OSA symptoms was used to identify people with possible OSA who did not have a prior diagnosis of the condition.
- Study participants used an FDA-approved diagnostic device for at-home OSA testing.
  - The device recorded apnea-hypopnea index (AHI) results, which were evaluated by a sleep specialist.
  - Study physicians explained the findings of the AHI results during a telephone consultation with study participants.
    - Participants with moderate (AHI: 16-30) to severe (AHI: >30) OSA were referred to care.

## Results

- Among the 89 (9.9%) individuals who agreed to participate in the study.
  - 21% had 3 MetS components, 53% had 4, and 20% had 5
  - 30% had diabetes
  - 83% had high blood pressure
  - >50% had abdominal obesity
- Among the 52 (58%) study participants who received a diagnosis of OSA
  - 50% had moderate OSA
  - 50% had severe OSA
  - 56% had a telephone consultation with a study physician and were referred to care

## Conclusions

- The findings of this study showed that an employer-sponsored healthcare outreach program can help identify individuals with unrecognized OSA and refer them to a provider for care.

## Poster presentation at the Associated Professional Sleep Societies annual meeting (SLEEP2020)

### Authors

Olga A Iakoubova, Carmen H Tong, Andre Arellano, Lance A Bare, Maren S Fragala, James J Devlin, Charles E Birse

### Affiliation

Quest Diagnostics Nichols Institute, San Juan Capistrano, CA

### SLEEP 2020 Virtual Meeting

Date: August 27-30

### Webpage

<https://my.sleepmeeting.org/s/lt-event?id=a1U4N0000Qxvu2UAB#/loginReq>

### References

1. American Heart Association. About metabolic syndrome. 2016. Updated July 31, 2016. Accessed February 28, 2020. <https://www.heart.org/en/health-topics/metabolic-syndrome/about-metabolic-syndrome>
2. Borel AL. Sleep apnea and sleep habits: relationships with metabolic syndrome. *Nutrients*. 2019;11(11). doi:10.3390/nu11112628