

## Study finds Nutrisystem improves arterial function in obese, postmenopausal women

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(Medical Xpress)—Arturo Figueroa, a researcher in the Florida State University College of Human Sciences, has confirmed with a team of researchers that Nutrisystem, with or without low intense resistance exercise, improves arterial function in obese, postmenopausal women.

In the study, "Effects of [Diet](#) and/or Low-Intensity Resistance [Exercise Training](#) on [Arterial Stiffness](#), Adiposity and Lean Mass In Obese [Postmenopausal Women](#)," Figueroa and his colleagues were able to demonstrate that a hypocaloric diet may be recommended to reduce the increase in arterial stiffness associated with menopause and obesity. The study was published Jan. 7 in the [American Journal of Hypertension](#).

Cardiovascular disease is the leading cause of death in postmenopausal women. Risk factors for cardiovascular disease include obesity and hypertension, and are associated with increased arterial stiffness.

"The public health impact of hardened or stiff arteries in women is under-appreciated, and does not receive the attention of other [cardiovascular risk factors](#)," said Figueroa, an associate professor in Florida State's Department of Nutrition, Food and Exercise Sciences.

Figueroa's study examined whether the combination of a hypocaloric diet and low intensity resistance exercise can be associated with greater improvements in arterial stiffness and [body composition](#), compared against each of the treatments on their own in overweight or obese postmenopausal women. His team studied 41 participants, each of which

was assigned to one of three treatment groups: low intensity resistance [exercise therapy](#), a hypocaloric diet, or a combination of both.

Nutrisystem was used for the hypocaloric diet in this study, providing a pre-packaged, structured meal program to the participants. The [exercise program](#) consisted of four leg exercises at low intensity, requiring approximately 30 minutes per session.

"The purpose of this study was to combine two practical interventions for this group of women," said Dr. Bruce Daggy, a co-investigator on the study and the chief science officer of Nutrisystem. "Nutrisystem is readily available by home delivery, is easy to follow, and includes support tools for individuals on the program. Likewise, low intensity resistance exercise is something that almost everyone can do. It's not necessary to own the specific equipment used in this study."

It was noted that 39 percent of the women studied were class II or III obesity, which is associated with a higher risk of mortality.

Figuerola's team ultimately found that the key to arterial health in obese postmenopausal women is in diet—specifically, a hypocaloric program such as the one offered by Nutrisystem. Pressure waves generated by contraction of the heart muscle travel faster through stiff arteries, because stiff arteries are not able to expand outward. Sensors placed on the subject can detect changes in pulse velocity that result from treatment. The researchers observed improvements in arterial stiffness with diet alone. The findings also indicate that there is an early effect of diet on leg arterial stiffness that influences brachial-ankle pulse wave velocity, a marker of central arterial stiffness. This reduction in arterial stiffness can be considered to have a positive influence on cardiovascular function.

The study also demonstrated an average weight loss of 5.8 percent

(5.1kg) in the group that received the hypocaloric diet, due primarily to a reduction in body fat mass in the abdominal region.

"The results were very pleasing to witness and could be translated to practice rather easily," Figueroa said. "The key may be in ensuring adherence to these recommendations, and a structured diet can help in this regard by taking away the guesswork."

Another key finding was that the addition of low intensity resistance exercise to a hypocaloric diet can preserve lean mass. The researchers believe they have demonstrated this for the first time. The researchers also confirm the potential therapeutic value of this form of exercise in obese individuals who are unable or unwilling to perform high intensity [resistance exercise](#) therapy. Maintaining muscle mass and strength is another important health goal in older women.

All participants in this study were non-smokers, in absence of menstruation for at least 1 year, and pre- or stage 1-hypertension aside from being obese. The study was supported by [Nutrisystem](#).

**More information:** [ajh.oxfordjournals.org/content ...  
1/04/ajh.hps050.full](http://ajh.oxfordjournals.org/content/1/04/ajh.hps050.full)

Provided by Florida State University

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