# Aging & Brain Health Alliance

Newsletter of the Aging & Brain Health Alliance

Rutgers University – Newark

#### New Five-Year Grant Will Continue Long-Term Study of Aging in African Americans

Kathleen O'Brien

The "Pathways to Healthy Aging in African Americans" study at Rutgers University– Newark will double in size thanks to a new five-year grant from the National Institute on Aging, a part of the federal National Institutes of Health.

The new grant will allow the Pathways research team to embark on several new research topics including a deeper look at the role of sex differences in the development of Alzheimer's and expanding efforts to recruit more men. The Rutgers team will increase efforts to measure the impact a neighborhood might have on a residents' risk of developing Alzheimer's. With a new stateof-the-art PRISMA brain imaging magnet at the Rutgers University Brain Imaging Center (RUBIC) in Newark, investigators will also be able to see participants' brain function in higher resolution than in the past.



www.brainhealth.rutgers.edu

# For African Americans, Study Shows Adequate Sleep May Help Prevent Dementia for Those With Genetic Risk Factor

Kathleen O'Brien

Could something as basic as a good night's sleep protect African Americans who have a gene variant linked to Alzheimer's disease? A new study in the *Journal of Alzheimer's Disease* by neuroscientists at Rutgers University-Newark points to this possibility for carriers of a variation that is the most common genetic risk factor for African Americans, who suffer from Alzheimer's at twice the rate of white people.



"This new finding suggests that someone with a high-risk variant might be able to overcome

their genetic inheritance by improving their sleep habits," said Bernadette Fausto, Research Faculty at Rutgers-Newark, who is a lead author on this new study.

In addition to being at greater risk of Alzheimer's disease, African Americans get less sleep on average, according to Fausto. The National Health Interview Survey found a "sleep gap" of nearly an hour, with white women getting the most sleep and Black men the least.

For African Americans who live in cities, population density translates into more night-time noise. There is more traffic, with trucks and ambulances disturbing the quiet, and more light pollution, which impacts the body's ability to release melatonin–a chemical in the body that supports sleep.

African Americans are also more likely to have severe cases of sleep apnea than white people, according to a study in the *Journal of Clinical Sleep Medicine*.

"There's a growing awareness that sleep is crucial for brain health, and this may be a significant contributor to the high rates of Alzheimer's disease and other dementias among African Americans," said Mark A. Gluck, senior author on the new paper, who is a Professor of Neuroscience and Public Health and the director of Rutgers University–Newark's *Aging & Brain Health Alliance*. "Sleep disruption of any sort can accelerate the progression of Alzheimer's," he added.

Scientists have long known about the connection between poor sleep and Alzheimer's disease, as well as the association with the high-risk ABCA7-80 variant and the disease. The Rutgers researchers explored the obvious next step, asking whether there is an interplay between those two factors.

Continued on page 3: "Sleep, Genetics, and Dementia".

# **Activities for Brain Health**

## Brain Healthy Cooking

**Delores "Cookie Hammonds** 

Enjoy a healthier version of **Turkey Wings** by baking them in the oven:

½ tsp. garlic power
½ tsp. onion powder
½ tsp. salt
¼ tsp. poultry seasoning
½ tsp. paprika
¼ tsp. pepper
1 tsp. olive oil
3 Turkey wings
4 medium stalks of celery

Preheat oven to 350 degrees. Line a baking sheet with aluminum foil.

In a bowl, stir together the garlic powder, onion powder, paprika, salt, poultry seasoning, and pepper.

Sprinkle the olive oil over the turkey wings then mix the turkey wings with the garlic powder mixture.

Place the celery stalks on the baking sheet. Place the turkey wings on the celery– this will keep the turkey from sitting in the grease (the celery can also add flavor to the turkey wings).

Bake for 55 minutes. Discard the celery and all visible fat from the wings. Slice the turkey from the bone before serving. (I recommend serving with a side dish of string beans and brown rice). So good!

# Soul Brain Dance Party Helps Seniors Lower Dementia Risk

**Barry Carter** 

Sandra Bartlett has not worn her zebra-striped platform heels since the 1970s.

They sat in the closet until Bartlett, 73, of Maplewood, received a flyer about a dance party for seniors last month. Remember *Soul Train,* the popular TV show hosted by the late Don Cornelius?



Well, put your hands together and give it up for the *Aging & Brain Health Alliance* (ABHA) at Rutgers University-Newark! Rutgers brought its own flavor to the "Hippest Trip in America" with *Soul Brain!*—an affair where seniors dance, learn tips to sharpen their minds and reduce the risk of Alzheimer's, a form of dementia which African Americans develop at twice the rate as the overall population.

The ABHA, led by Dr. Mark A. Gluck at the Center for Molecular and Behavioral Neuroscience, studies brain health in African Americans over the age 60 in the Newark area. Their research and community engagement program has garnered national recognition.

As part of their work, the ABHA started dementia caregiver support groups and sponsored educational dinners with funding from the National Institute on Aging. It is now enrolling Black families into a national research study to identify new genes for Alzheimer's in people of African ancestry.

Bartlett believes in research, having already participated in Rutgers ongoing study of older Black Americans.

"Anything I can do to help me or someone else, or anything that I can do to keep my brain functioning and on point, I'm interested," she said.

During a break in the music, spry party-goers listened to Glenda Wright, a Rutgers brain health educator, before hitting the dance floor at the East Orange Senior Center. They wore afros, dashikis and bell-bottom slacks while others pumped their fists and flashed the peace sign dancing down the Soul Train Line.

Barnes Reid, 71, was all in, unaware the event featured brain health. But after the presentation, Reid is considering joining the Rutgers study, understanding that movement is key to longevity. He has competed in a senior track meet, studied comedy and has run for an Irvington council seat. Reid's passion, though, is choreographing liturgical dances for the praise ministry at his church – Saint Matthew AME in East Orange.

"I do these things to keep my mind sharp," he said.

A brain health party every now and then will help, too!

# **Community Brain Health Profiles**

#### ...Continued from page 1: "Sleep, Genetics, and Dementia"

They enrolled 114 cognitively healthy African Americans from the Newark area and separated them into two groups: Those with the high-risk version of the ABCA7-80 gene and those with a lower-risk variant.

All of them were given a battery of cognition tests. In addition, the study participants were asked to complete a simple self-assessment of their sleep quality. When researchers crunched the numbers, here's what they found: People with the high-risk genotype who reported getting enough quality sleep were protected from developing one of the earliest cognitive signs of Alzheimer's disease, the inability to apply, or generalize, previous learning to a new problem. In contrast, those with the high-risk gene variant who reported poor quality sleep showed impairments in generalization of previous learning.

We think of sleep as a time when we aren't doing things– aren't awake, aren't eating, aren't walking, aren't talking. Yet it is a busy time for the whole body, especially the brain, which uses this downtime to undertake basic maintenance tasks.

"Every cell is like a home", says Gluck, – "it generates garbage. This only becomes a problem if that garbage doesn't get picked up," he said. In the case of the brain, that collection of "toxic garbage" takes place during the specific type of sleep that occurs in the pre-dawn hours. If sleep is truncated or disturbed, toxins can accumulate in the brain.

Gluck and Fausto are already moving ahead with the next step, which is having participants wear a lightweight headset while they sleep that monitors and records brain waves down to the millisecond. This will help determine which specific types of brain waves are associated with better cognition. It will also eliminate any errors that might have crept into the research from people who might have mischaracterized or misremembered the quality of their sleep.

"In many areas of medicine, we are seeing the growth of what is known as 'personalized medicine' in which the treatments for a disorder are determined, in part, by a patient's genetic profile," says Gluck.

Down the road, Gluck envisions a time when a doctor, upon discovering someone has the ABCA7-80 risk factor, will not tell the patient that they need some expensive new drug but rather: "You really, really need to improve the quality of your sleep."

## Ms. Norma Jones VIP (Very Important Participant) since 2016



"Once you go through this study, your whole personality changes, and you find out that you want to do more. Since I've come here, I've jumped out of a plane. I never thought I could do it, but now I'm open for different challenges...I say to my friends: well, you see me riding my bike– you can do the same...All you have to do is put a little effort into it. Come join one of these classes, and you'll see a big improvement in your lifestyle and how you feel. You'll be motivated to do more."

Mr. Hilton Grant VIP (Very Important Participant) since 2022



"Younger people at my job forget more than us seniors. And so, it is very beneficial that we all get into a program like this so that we can learn from it and adopt a healthier lifestyle. We want to live as long as we can. Not just live, but live with our full faculties— knowing what day of the week it is, and being able to recall things that happened a week ago, and even a month ago. I enjoy the program and would like to stay with it as long as possible, and would recommend it to anyone."

# Pathways to Healthy Aging in African Americans: A University-Community Collaborative Study

# What is the Purpose?

- We seek to understand why many African Americans are at elevated risk for Alzheimer's disease as compared to other individuals, while some African Americans live very long lives without any cognitive impairment.
- By studying how health, lifestyle, environment, and genetics interact in different people, we may learn why some people develop Alzheimer's disease, and others live into their 80s and beyond with strong, clear minds.
- What we learn will guide the development of novel treatments to help people stay brain-healthy and avoid Alzheimer's disease.

# What is Involved?

- **First visit:** Saliva and blood collection, to measure your immune health, hemoglobin A1c (diabetes risk), brain health, and genetics.
- Second visit: Tests of memory and thinking, lifestyle questions, physical fitness. We will train you to use a sleep monitor for home use during this study to measure sleep patterns.
- **Third visit.** If you are medically able, return for brain imaging (MRI) to show us the size and activity of the different regions in your brain.

Return every two years to repeat.

To learn more about becoming a paid participant in research on aging and brain health, please call: (973) 353-3673

# Who is Eligible to Join?

- You identify as Black or African American.
- You are age 60 or older.
- You speak English fluently.

### What are the Benefits?

- With your permission, we can give copies of your brain imaging (MRI), sleep monitoring, and other tests to your doctor as a free "Rutgers Brain Checkup."
- If you show signs of serious memory decline in future years, we will pay for an initial full clinical evaluation by local doctors.
- You become a Rutgers VIP Very Important Participant — and get invitations to free Zoom-based home wellness classes, updates on brain health news, and invitations to community health lectures and other events, including our popular Soul Brain! dance parties.
- You contribute to your community by helping us understand how African Americans age, and what might work to reduce the high rates of Alzheimer's disease.
- You can earn up to \$300 for your time and effort.
- New Exercise Study: We have begun enrolling participants into our our new NIHfunded study of exercise and brain health. Take a free 3x-weekly exercise class for at least six months (or longer if you wish).



www.brainhealth.rutgers.edu