Introduction

Imagine your mother asking you, time and again, "What was your name again?" Or your father forgetting where he left his keys—or even why he entered a room in the first place. Alzheimer's disease doesn't arrive overnight; it sneaks in slowly, quietly, and begins to change everything. But the real question is: *Can we do something to stop it before it even starts?*

In a world where almost everything has gone digital, researchers are exploring a new possibility: Could a mobile app and an online health coach help prevent the onset of Alzheimer's?

One of the most notable studies in this field was led by **Dr. Michelle Gray**, a respected professor at the **University of Arkansas**, USA. Dr. Gray—an expert in resistance training and aging—collaborated with a team of specialists in exercise science, neurology, psychology, and digital health to conduct a two-year clinical trial. The aim was to evaluate whether online coaching and digital lifestyle education could reduce the risk of Alzheimer's in middle-aged adults.

In this article, we'll walk through the full structure of the study, its early findings, and some of the most compelling insights. We'll also explore the key question: *Can a few clicks a day truly help protect our memory?*

What is Alzheimer's?

Before diving into the details of the study, let's briefly understand what Alzheimer's actually is.

Alzheimer's is a progressive brain disorder that gradually impairs memory, thinking ability, and the capacity to perform everyday tasks. It is the most common form of dementia and typically appears in individuals over the age of 65. Early symptoms often include short-term memory loss, confusion, repeated questioning, and getting lost in familiar places. As the disease progresses, individuals may even fail to recognize their own family members.

In the following sections, we'll explore the full details of this research study, its initial findings, and some of its most intriguing insights—ultimately asking whether just a few taps on a screen can truly help protect our memory.

What Exactly Was This Study About?

The study conducted by Dr. Michelle Gray and her research team set out to explore a crucial question:

Can a digital health app, combined with remote coaching, reduce the risk of Alzheimer's disease in middle-aged adults?

To answer this, the researchers designed a two-year randomized controlled trial (RCT) with the following structure:

What Was Checked?

The impact of a multi-component digital intervention, including:

- Lifestyle education (covering nutrition, sleep, stress management, and physical activity)
- · Personalized online coaching delivered through a mobile app

On Whom?

A total of 204 adult volunteers aged 45–75 years, all of whom had at least two modifiable risk factors for Alzheimer's disease. These included physical inactivity, poor diet, high blood pressure, type 2 diabetes, depression, inadequate sleep, and others.

♦ How Was It Performed?

Participants were randomly assigned into two groups:

- Health Education (HE) Group: Received only digital lifestyle education content.
- Health Coaching (HC) Group: Received the same education, plus regular support from a remote health coach who guided them in implementing behavioral changes.

♦ What Was the Ultimate Goal?

To assess whether this digital intervention could:

- Improve cognitive performance (memory, focus, processing speed)
- Reduce biological risk markers associated with Alzheimer's (e.g., blood lipids, glucose levels, inflammation)
- Most importantly, stabilize or reduce overall Alzheimer's disease risk

Why Does This Study Matter to You and Me?

- You might be thinking, "I'm still healthy—why should I worry about Alzheimer's?" The truth is, Alzheimer's is not a sudden illness; it begins developing silently in the brain many years before any symptoms appear. That's why prevention must begin in midlife—not when it's already too late.
- Unlike in the past—when we believed the only option was to endure the
 disease—recent research shows that lifestyle changes such as better sleep,
 increased physical activity, healthier nutrition, and stress management can
 reduce the risk or slow the progression of Alzheimer's.
- But how can we realistically implement these changes? That's where a digital
 coach and mobile app can make a difference. You don't need to visit a clinic,
 invest significant time, or spend a lot of money. Just a few clicks a day—
 combined with personalized support—can help protect your memory and
 cognitive health.
- This study highlights that even those who stay at home can engage in
 Alzheimer's prevention, as long as they have a smartphone and the motivation
 to change. It's a model that can be realistically applied in many communities—
 including ours.

What Were the Results?

The study continued through 2023, and preliminary results were published as a preprint in April 2024. The findings revealed:

- Participants in both groups—those who only received digital education and those who also had an online coach—showed improvements in cognitive function, including memory, focus, and processing speed.
- The overall risk of Alzheimer's was stabilized in both groups, indicating a halt or reduction in disease progression.
- Interestingly, in participants over the age of 65, those who had access to online coaching showed a significant and measurable reduction in their Alzheimer's risk score.

This suggests that digital coaching may be especially effective for older adults, potentially due to their greater need for personalized support, ongoing motivation, and accountability.

In the next section, we'll explore the deeper implications of these findings and what they mean for the future of brain and memory care.

Key Takeaways from the Results

Although the findings of this study have not yet been formally published in a peerreviewed journal, the preprint results indicate that even **simple digital interventions** can have a **meaningful and measurable impact** on cognitive performance and the risk trajectory of Alzheimer's disease.

- ♦ Stabilizing Alzheimer's risk is a success in itself, given that this condition naturally worsens with age. Preventing progression is, therefore, a significant achievement.
- ◆ Cognitive improvements in both groups suggest that even basic lifestyle education can be effective. However, what sets this study apart is the added benefit of online coaching among adults over 65—highlighting how human interaction, even through a screen, can provide greater motivation and support where it's most needed.
- ♦ For the future of brain health, this study sends a clear message: we should not wait for symptoms to appear. Digital interventions are accessible, customizable, and cost-effective. This makes them ideal even for communities with limited access to specialized care—such as many rural or underserved regions in countries like Iran.

To put it simply: if today's apps can track our sleep, daily steps, and heart rate, why shouldn't they also help protect our minds?

Final Thoughts: A Small Step, a Big Impact

This research reminds us that the future of cognitive health is no longer confined to pharmacies and doctors' offices—it can begin right from a smartphone screen. Digital health programs and online coaching are emerging as powerful tools for preventing conditions like Alzheimer's—tools that are accessible even from home.

If you or your loved ones are over the age of 45, now is the best time to take action. With just a few simple lifestyle changes, it's possible to strengthen the mind, reduce risk, and improve overall quality of life.

At **Pelank**, our mission is to simplify and translate cutting-edge scientific knowledge into practical, accessible content for Persian-speaking communities. If you're ready to take proactive steps against Alzheimer's, our programs, guides, and coaches are here to support you.

Take your memory seriously. Prevention starts today.

References

Study Protocol:

Gray M, Rogers N, Waddell D, et al.

Intervention for a Digital, Cognitive, Multi-Domain Alzheimer Risk Velocity Study:

Protocol for a Randomized Controlled Trial.

Published in: JMIR Research Protocols, 2022; 11(2): e31841.

DOI: 10.2196/31841

Direct Link to Article

Preliminary Results (Preprint, April 2024):

Gray M, Rogers N, Christensen C, Waddell D, et al.

Digital 2-year multidomain health interventions improve cognition and stabilize

Alzheimer's disease risk in at-risk adults: DC-MARVEL - A Randomized Controlled Trial (Preprint)

Published on: ResearchGate, April 2024



Direct Link to Preprint PDF

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Source: DC-MARVEL Protocol (JMIR Research Protocols) and Preprint (ResearchGate)

Tools and Instruments Used in the Study:

- ANU-ADRI (Australian National University Alzheimer's Disease Risk Index): https://anuadri.anu.edu.au (Currently experiencing access issues)
- RBANS (Repeatable Battery for the Assessment of Neuropsychological Status): A standardized cognitive assessment tool used in the study.
- **Neurotrack Digital Cognitive Assessment:** https://www.neurotrack.com

Academic and Data Sources:

- PubMed National Library of Medicine
- ResearchGate Academic Research Network
- University of Arkansas Department of Health, Human Performance, and Recreation

Written and adapted by Mohsen Taheri, based on the DC-MARVEL study by Dr. Michelle Gray et al. This version is intended for educational purposes only and aims to increase public awareness of preventive strategies against Alzheimer's disease.