

COVID-19 Vaccine Hesitancy on Alzheimer's Disease: Examining the Influence of ADRD Stage on Acceptance Among Patients With Chronic Conditions

Sanjana Joseph, Dr. Yijong Yang & Dr. Setor Kofi Sorkpor
Florida State University College of Nursing

FSU | FLORIDA STATE
UNIVERSITY

FSU
UNDERGRADUATE RESEARCH
OPPORTUNITY PROGRAM
CENTER FOR UNDERGRADUATE RESEARCH & ACADEMIC ENGAGEMENT

Introduction

Alzheimer's disease (AD) is a progressive disorder that impairs memory, and language, advancing from preclinical stages to dementia (Kumar et al.). While COVID-19 vaccine hesitancy has been studied in various populations, including pediatric oncology patients (O'Neil et al.) and dementia caregivers (Bruno et al.), its relationship with AD and chronic conditions remains underexplored.

Methods

This study analyzes how COVID-19 affects Alzheimer's Disease (AD) progression using data from the All of Us Researcher Workbench. It includes AD patients and those who contracted COVID-19, excluding other neurodegenerative diseases or severe comorbidities. Data on demographics, medical history, and cognitive assessments were analyzed. The study also examines COVID-19 vaccination rates and hesitancy as it relates to chronic conditions. Statistical analyses will assess the impact of COVID-19 on AD progression and its implications for disease management.

Results

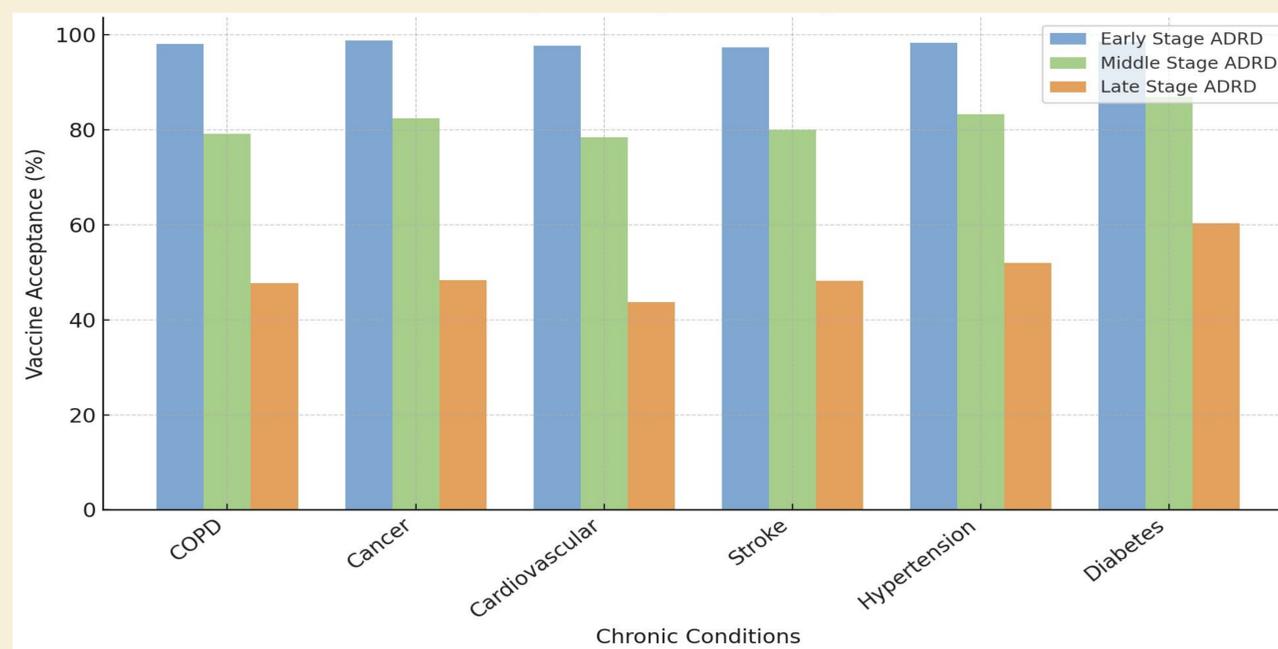


Figure 1. COVID-19 Vaccine Acceptance Based on ADRD Stage & Condition

Discussion

My analysis highlights how ADRD stage and chronic conditions influence COVID-19 vaccine acceptance. Early-stage ADRD patients show the highest acceptance, with rates of 98.1% for COPD, 98.8% for cancer, and 98.4% for hypertension, likely due to better cognitive function and caregiver support.

In the middle stage, acceptance drops to 79.2% for COPD, 82.5% for cancer, and 83.3% for hypertension, reflecting increased dependency and caregiver hesitancy.

Late-stage ADRD patients have the lowest acceptance, with rates as low as 47.8% for COPD, 48.3% for cancer, and 52.0% for hypertension. This reflects heightened health vulnerabilities, reduced healthcare interactions, and end-of-life considerations.

The downward trend in vaccine acceptance across ADRD stages is an interplay of cognitive decline, caregiver influence, reduced healthcare interactions, and shifting medical priorities.

Conclusion

This study underscores the need for targeted interventions to address vaccine hesitancy in ADRD patients, particularly in advanced stages. While early-stage individuals maintain high acceptance, later stages face significant barriers. Caregiver education and improved healthcare accessibility are essential to mitigating hesitancy.

Literature Cited



Acknowledgements

I sincerely thank everyone who contributed to making this experience possible: Dr. Yang and Dr. Sorkpor, whose guidance was invaluable. I also thank the CRE staff and my UROP leaders for their tremendous support. I gratefully acknowledge the All of Us participants for their contributions, as well as the National Institutes of Health's All of Us Research Program.