Examining the Role of Cigarette Smoking and Cessation on Combined Risk of Incident Dementia, Nursing Home Placement, and Death in Cognitively Healthy and Mild Cognitively Impaired Adults

Adrienne L. Johnson, PhD1,2, Naomi C. Nystrom, PsyD3,4,5, Megan E. Piper, PhD2, Jessica Cook, PhD1,2, Derek L. Norton, MS6, Megan Zuelsdorff, PhD3,6, Mary F. Wyman, PhD3,6, Susan Flowers Benton, PhD, CRC5, Nickolas H. Lambrou, PhD5, John O’Hara, M.A.3, Nathaniel A. Chin, MD5, Sanjay Asthana, MD3,5,7, Cynthia Carlsson, MS, MD3,5,7, and Carey E. Gleason, PhD3,5,7, (1)William S. Middleton Memorial Veterans Hospital, Madison, WI, USA, (2)University of Wisconsin - Center for Tobacco Research and Intervention, madison, WI, USA, (3)VA Geriatric Research, Education and Clinical Center (GRECC), William S. Middleton Memorial Veterans Hospital, Madison, WI, USA, (4)Department of Human Services - State of Minnesota, Anoka, MN, USA, (5)Wisconsin Alzheimer’s Disease Research Center, University of Wisconsin School of Medicine and Public Health, Madison, WI, USA, (6)University of Wisconsin School of Medicine & Public Health, Madison, WI, USA, (7)Wisconsin Alzheimer’s Institute, University of Wisconsin School of Medicine and Public Health, Madison, WI, USA

Abstract Text:

Background: Cigarette smoking directly and indirectly accounts for a 70% increased risk of ADRD onset with smoking cessation lowering this risk. However, this risk may be underestimated due to challenges disentangling key outcomes (i.e. death or nursing home placement prior to dementia diagnosis). Further, the magnitude of these risks remains unexplored in smokers with mild cognitive impairment (MCI). We sought to examine the impact of smoking status, duration of smoke exposure, and duration of abstinence on key outcomes of diagnosis of dementia, nursing home placement, or death (Dem/NH/Death). Method: We conducted three Cox-regression proportional hazard analyses to model conversion to event (Dem/NH/Death) using the NACC dataset, stratified by baseline cognitive status (cognitively healthy [CH; N = 10852; Mage = 72.0; 64.6% Female; 81.4% Caucasian] vs. MCI [N = 4931; Mage = 73.4; 49.1% Female; 81.5% Caucasian]). Time delayed entry methods accounted for varying age of entry. Model 1: smoking status (former vs. current smoker). Model 2: pack years (PY) comparing never (0 PY) smokers to low (>0 - <20 PY), moderate (20 - <40 PY), and heavy (≥ 40 PY) users. Model 3: duration of abstinence (i.e., not quit, >0->10 years, 10->20 years, 20->30 years, ≥ 30 years) compared to never smokers. Result: (1) CH current smokers had higher rate of conversion (HR = 2.18; 95% CI 1.74-2.75; p < 0.001). (2) CH heavy use smokers had higher rate of conversion (HR = 1.36; 95% CI 1.16-1.59; p < 0.001). (3) CH current smokers had increased rate of conversion than never smokers (HR = 2.14; 95% CI 1.71-2.67; p < 0.001). After 10 years of quitting, former smokers did not differ from never smokers in rates of Dem/NH/Death (HR = 1.65; 95% CI 1.25-2.18; p < 0.001). None of the results from the MCI group were significant (p’s > .05). Conclusion: Using a more comprehensive outcome suggests an even greater negative impact of smoking on dementia and highlights the benefit of quitting on these risks. The lack of significant findings in the MCI group may
be related to diagnostic confounders (e.g., race, socioeconomic status). Future research is needed among this group of smokers.

Tables and Figures:

Figure 1.png (38.8KB)

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Title:
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Submitter's E-mail Address:
aljohnson43@ctri.wisc.edu

Electronic Signature:
Adrienne L. Johnson

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Theme:
Public Health and Psychosocial

Topic:
Epidemiology

Sub Topic:
Risk and protective factors in MCI and dementia

Learning Objectives:

• Examine the impact of smoking status, duration of smoke exposure, and duration of abstinence on key outcomes of diagnosis of dementia, nursing home placement, or death.
• Differentiate the impact of smoking on key dementia outcomes by baseline cognitive status of cognitively healthy and mild cognitive impairment (MCI).

Keywords:
mild cognitive impairment (MCI), nursing home and risk factor
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Second Author

Naomi Nystrom, PsyD
Email: naomi.c.holt@gmail.com

VA Geriatric Research, Education and Clinical Center (GRECC), William S. Middleton Memorial Veterans Hospital
Madison WI 53705
USA
Department of Human Services - State of Minnesota
Anoka MN
USA
Wisconsin Alzheimer's Disease Research Center, University of Wisconsin School of Medicine and Public Health
Madison WI 53706
USA

Third Author

Megan Piper, PhD
Email: mep@ctri.wisc.edu

University of Wisconsin - Center for Tobacco Research and Intervention
madison WI
USA

Fourth Author

Jessica Cook, PhD
Email: jwcook@ctri.wisc.edu
Eighth Author

Susan Flowers Benton, PhD, CRC
Email: flowersbento@wisc.edu

University of Wisconsin School of Medicine & Public Health
Madison WI 53705
USA

Ninth Author

Nickolas Lambrou, PhD
Email: Nickolas.Lambrou@va.gov

VA Geriatric Research, Education and Clinical Center (GRECC), William S. Middleton Memorial Veterans Hospital
Madison WI 53705
USA

Tenth Author

John O’Hara, M.A.
Email: johara@medicine.wisc.edu

VA Geriatric Research, Education and Clinical Center (GRECC), William S. Middleton Memorial Veterans Hospital
Madison WI
USA

Eleventh Author
Nathaniel Chin, MD
Email: nachin@wisc.edu
Wisconsin Alzheimer's Disease Research Center, University of Wisconsin School of Medicine and Public Health
Madison WI 53705
USA

Twelfth Author

Sanjay Asthana, MD
Email: sa@medicine.wisc.edu
VA Geriatric Research, Education and Clinical Center (GRECC), William S. Middleton Memorial Veterans Hospital
Madison WI
USA
Wisconsin Alzheimer's Institute, University of Wisconsin School of Medicine and Public Health
Madison WI
USA
Wisconsin Alzheimer's Disease Research Center, University of Wisconsin School of Medicine and Public Health
Madison WI
USA

Thirteenth Author

Cynthia Carlsson, MS, MD
Email:cmc@medicine.wisc.edu
VA Geriatric Research, Education and Clinical Center (GRECC), William S. Middleton Memorial Veterans Hospital
Madison WI 53705
USA
Wisconsin Alzheimer's Institute, University of Wisconsin School of Medicine and Public Health
Madison WI 53792
USA
Wisconsin Alzheimer's Disease Research Center, University of Wisconsin School of Medicine and Public Health
Madison WI 53726
USA
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