Motivating Change in Aging African American Smokers - Testing Messages

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Motivating Change in Aging Smokers – 2 (MCAS Aim 2)

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Study Purpose

The purpose of this research is to evaluate messages that motivate older smokers to make quit attempts using evidence based smoking treatments (EBSTs).

Background

An estimated 5.8 million people have Alzheimer's disease and related dementias (ADRD) in the U.S., costing $290 billion per year. The incidence of ADRD is expected to triple by 2050, costing an estimated $1.1 trillion per year. Due to the rapid growth and tremendous impact of this disease, focus has shifted towards targeting modifiable risk factors to prevent and slow the development of ADRD, potentially preventing approximately 40% of ADRD cases2. A candidate risk factor, cigarette smoking, is the leading preventable cause of death and disability in the U.S., resulting in 480,000 deaths and costing over $300 billion each year. Epidemiological studies show that cigarette smoking is prospectively associated with a 70% increased risk of Alzheimer's disease (AD) dementia onset, accounting for at least 13.9% of ADRD cases. Smoking directly increases the likelihood and severity of at least five risk factors for ADRD onset (i.e., diabetes, hypertension, stroke, heart disease, and high cholesterol). Smoking cessation can lower these risk factors, even among an aging population.

Regardless of genetic risk, healthy lifestyle modifications such as smoking cessation can cut the risk of ADRD in half. Due to the known relations between smoking, other ADRD risk factors, and ADRD, the World Health Organization, Institute of Medicine, and Alzheimer's Association state that smoking cessation is among the top priorities for reducing cognitive decline and preventing onset of dementia. Fortunately, evidence-based smoking treatments (EBSTs) exist that can double or triple cessation success. Older adult smokers are at especially high risk for ADRD. Currently, there are 19 million smokers ages 45 and older. Given the predicted doubling of older adults in the next 25 years, helping older smokers quit is a vital public health priority. Unfortunately, older smokers are half as likely to attempt to quit smoking compared to younger adults40. Lower cessation efforts in older smokers may be a function of both clinician inaction and dysfunctional beliefs/motivational deficits of older smokers. Compared to younger adults, older smokers are less likely to receive advice to quit or be offered EBSTs (e.g., pharmacotherapy, counseling) by healthcare professionals. Moreover, older smokers' doubts about the benefits of quitting later in life and the efficacy of smoking cessation interventions may reduce older smokers' motivation to quit13. Importantly, older smokers who do attempt to quit are more likely to maintain abstinence than younger smokers when using EBSTs. The chief obstacle to reducing smoking among older adults does not appear to be treatment efficacy, but rather failing to motivate this underserved population to make quit attempts using EBSTs.

According to the Health Belief Model, impactful motivational messages for older smokers should focus on threats they perceive as important and personally relevant and messages should be offered with a feasible, effective course of action to address the health threat. Older adults' greatest aging-related fear is cognitive decline and developing dementia45-47; it is both important and relevant. The link between smoking and ADRD risk factors and the availability of EBSTs offers an effective strategy to respond to

this threat. Unfortunately, the indirect relation between smoking and ADRD risk expressed via known ADRD risk factors has not been clearly articulated to the general or medical community, and is not used as a motivator for smoking cessation. Providing this message within the health care system, where older smokers can access EBSTs at little or no cost, and where they spend a disproportionate amount of their time, will increase use of EBSTs. Building novel interventions for translation will facilitate more rapid dissemination and subsequent impact on public health. The overarching objective of this proposal is to develop and test a readily translatable Stage 1 motivational intervention for smoking cessation in older adults consisting of: (1) a novel patient-informed motivational message promoting smoking cessation; and (2) ready access to EBSTs for smoking cessation within a healthcare setting. This responds to two of NIA's goals: (1) develop effective interventions to maintain health, well-being, and function and prevent age-related diseases/disabilities; and (2) disseminate information to the public, medical, and scientific communities. This project will evaluate the motivational impact of 2 message packages developed from a previous study (IRB# 2020-1429).

Study Procedures

After providing study information, participants will be randomized to one of three unique message packages: (1) Message A (hope-based video message and flyer; n = 275), (2) Message B (fear-based video message and flyer; n = 275), or (3) Control Message C (water advertisement video and flyer; n = 275). These messages will be presented as part of a (~15 minute) online survey, conducted via Qualtrics (a secure, web-based application designed to support data capture for research studies) and collected by Centiment LLC. The survey will first assess demographic characteristics (i.e., age, race, ethnicity, gender identity, income level, education level), psychiatric history (i.e., self-report of current or lifetime psychiatric diagnosis), smoking history (e.g., cigarettes smoked per day, age of smoking onset) and current motivation to quit smoking. Participants will then view their randomized message package (A, B, or C), and will be asked to rate their emotional response to this message, and the impact of the presented messages on motivation to quit (only in Message A and B conditions) and behavior change mechanisms outlined in the HBM: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, self-efficacy. Upon completion, participants will be paid for their time and effort by Centiment LLC, through secure PayPal payments. Per projections from Centiment, in order to recruit the planned 825 participants, participants will be compensated for their time and effort based on Centiment LLC's approved compensation strategy.

Eligibility Criteria

Eligibility criteria include self-identifying as African American or Black (can identify as AA along with other race), current smoker (defined as smoking >100 cigarettes in their lifetime and currently smoking cigarettes 'some days' or 'everyday'), able to read and write in English, ages 50-80, no self-reported history of MCI or dementia.

Recruitment

Participants selected for this study will be recruited to represent the national (U.S.) populations of older adults, particularly by gender (approximately 50 percent female ± 10 percent). Participants will be recruited via text message from a pre-existing pool of potential participants within the U.S. using a market research company (Centiment, LLC). Centiment is a large market research company with a pool of thousands of pre-existing individuals who are solicited to engage in various studies Centiment is

contracted to support. The company has reach in over 100 countries with a vast array of background demographic information on potential participants including race, gender, age, medical history (self-reported), and behaviors (including smoking status as identified in the Participants section). Potentially eligible participants for this study from Centiment's pool of individuals (based on eligibility criteria described in the section above) will be sent an invitation via text message to complete the study survey, those who then respond and complete the survey will be considered enrolled in this study.

Statistical Analysis Plan

Data analysis will be performed using IBM SPSS Statistics. Chi-square tests of independent and Analyses of Variance (ANOVAs) will be used to confirm randomization resulted in no significant differences between groups in terms of demographics, smoking-related variables, and psychiatric history. ANCOVA tests with planned contrasts will be used for primary analyses. Primary analyses will control for baseline values (of motivation and intention to quit, respectively) due to the risk of bias of baseline variables. Secondary analyses will compare the messages to each other using ANOVAs to examine the effect of condition on perceived message effectiveness, reactance, and informativeness. Analyses of emotionality will use ANOVAs. Lastly, Benjamin-Hochberg corrections, which are less susceptible to type II error than other forms of statistical corrections, will control for false discovery rate (FDR) for covariate-corrected analyses involving emotionality.