

Appendix A: Additional details on study methods

1. ACHES sampling frame

ACHES sampling included oversampling of areas with high percentages of Hispanics and Non-Hispanic (N-H) Blacks. These two race/ethnic groups represent a smaller percentage of the US population and can have lower response rates. This sampling strategy was used to increase the number of individuals from these two groups in the ACHES sample and thus ability to generate reliable estimates. ACHES sampling weight calculations included adjustment for non-response and oversampling and calibrated the sample to the age-, sex-, and race/ethnic- distribution of the US non-institutionalized civilian population of adults with arthritis which was estimated from the 2003-2005 National Health Interview Survey. (1)

2. Description of characteristics studied.

Socio-demographic characteristics were age, sex, race/ethnicity, highest educational attainment, and employment status (employed, not working [out of work, homemaker, student, unable to work/disabled], or retired).

Participants rated the severity of each of three arthritis symptoms (joint pain and aching, joint stiffness, and fatigue) in the past 7 days on a scale of 0 to 10 (0=no symptoms, 10=most severe). For each symptom, we categorized ratings into 3 levels: none to low (0-4), moderate (5-6), and severe (7-10) (2). Self-rated health was measured with “Would you say your health in general is

excellent, very good, good, fair, or poor?” and categorized into three groups (very good/excellent, good, or poor/fair). Anxiety and depression were measured using the Arthritis Impacts Measurement Scales (AIMS), where a score of ≥ 4 on each of the anxiety and depression scales indicated the presence of probable anxiety or depression, respectively. (3-6) Body mass index (BMI) (kilogram/meter²) was categorized as under or normal weight (<25), overweight ($25\text{--}<30$), or obese (≥ 30) based on self-reported weight and height.

Those responding “yes” to “Are you limited in any way in any of your usual activities because of arthritis or joint symptoms” were classified as having an arthritis-attributable activity limitation (AAAL). A response of “yes” to “Do arthritis or joint symptoms now affect whether you work for pay or not?” indicated that arthritis affected ability to work for pay. Participants also rated how much arthritis-attributable interference (not at all, a little, a lot) that they experienced in the past seven days in errands and shopping; we examined this as “not at all/a little” versus “a lot”.

We defined other HCP self-management behavior support as receipt of physician counselling for physical activity and weight loss. Respondents were classified as having received a recommendation to exercise to manage arthritis if they responded “yes” to “Has a doctor or other health professional ever suggested physical activity or exercise to help your arthritis or joint symptoms?” and as having received a recommendation to lose weight to manage arthritis if they responded “yes” to “Has a doctor or other health professional ever suggested losing weight to help your arthritis or joint symptoms?” We included all ACHES respondents (i.e., did

not restrict to those who were overweight or obese) in analysis involving “recommendation to lose weight” because this question’s time frame was “ever” and this variable was included to understand the level of self-management support that adults with arthritis have ever received; conceivably some respondents who were under or normal weight at the time of the ACHES survey had lost weight in response to this recommendation.

Univariable and multivariable logistic regression modelling

Outcome 1: Received an HCP recommendation to take an SME class: First, we estimated unadjusted associations between “ever received a recommendation” and each of 16 characteristics (socio-demographics, arthritis symptoms, current health status, arthritis-attributable effects and the additional two HCP self-management support variables [recommendation for physical activity/exercise; recommendation to lose weight]). Then, we conducted multivariable modeling using forward manual stepwise selection procedures. We identified statistically significant associations ($\alpha=0.05$) with ever receiving a recommendation to take an SME class using the Wald F statistic with Satterwaite adjustment and associated p-values.(7) For each multivariable model, we calculated the Condition Index to detect collinearity where a Condition Index ≥ 30 may indicate collinearity.(8)

Outcome 2: Attended an SME class: We estimated unadjusted associations between “ever attending an SME class ” and 17 characteristics (“ever received recommendation to take an SME class” and the 16 socio-demographic, arthritis symptoms, current health status and

arthritis-attributable effects variables). Next, we used the same procedures for multivariable analyses as for Outcome 1.

References

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