

such important constructs as participant personal characteristics and participant confidence in controlling impacts of their disease symptoms and participant preferences for use of various methods of coping with disease impacts. Outcomes: Results indicate a complex pattern of relationships between such factors as personal characteristics of program participants and their perceived mastery over the impacts of their disease symptoms, and their preferred mechanisms for coping. Implications: program designers and managers can better understand the differential influences of disease burden on participants analyzed with their personal characteristics and their preferential uses for coping mechanisms and their perceived ability to withstand the added burdens of multiple chronic diseases.

DOES ONSET OF CHRONIC CONDITIONS MODERATE THE IMPACT OF RELATIONAL LIFE EVENTS ON DEPRESSED MOOD?

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More than 62% of adults aged 65+ have more than one chronic condition; this number increases to more than 82% for those 85+. Older adults simultaneously experience changes in their relationships due to negative relational life events, including illness, injury, or death of a loved one. Stressors occurring in tandem can overload psychological resources and increase risk for poor mental health. Informed by the stress process model, we assessed the influence of relational life events on depressive symptoms over time and evaluated the moderating effects of chronic condition onset. Self-reports of four stressful life events, five chronic conditions, and depressive symptoms as measured by the CES-D came from 2,948 older adults participating in the ORANJ BOWL panel. Using longitudinal multilevel mixed effect modeling, we examined trajectories of depressive symptoms across three waves. While depressive symptoms increased over time, they were greater for people who experienced more relational life events and the onset of more chronic conditions. Participants who reported experiencing all four relational life events but no chronic conditions had an average CES-D score of 5.28 ($p < .0001$); average CES-D score increased to 12.72 ($p < .0001$) for those who reported four life events and the onset of four or more new chronic conditions during the study period. In summary, chronic condition onset moderated the relationship between life events and depressive symptoms. Findings highlight the need for practitioner awareness of increased mental health risks for people experiencing stressors in multiple domains of life.

SEX DIFFERENCES BETWEEN ATTITUDES TOWARD MEDICATIONS AND POOR ANTIHYPERTENSIVE MEDICATION ADHERENCE IN ELDERLY

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Despite its importance for blood pressure control, antihypertensive medication adherence remains a challenge in older adults. Explicit and implicit attitudinal ambivalence toward medications (holding both positive and negative explicit attitudes, and discrepant explicit and implicit attitudes, respectively) may underlie low adherence. We examined whether race, age, or sex affect the associations between attitudes, ambivalence, and adherence. A questionnaire and implicit association test captured medication attitudes from hypertensive adults aged ≥ 55 ($n=199$). Adherence was measured with the Krousel-Wood Medication Adherence Scale (K-Wood-MAS-4). Higher scores on the attitudes and adherence scales indicate more positive attitudes and worse adherence, respectively. Associations and effect modification by sex, race (white vs. nonwhite), and age (<65 vs. ≥ 65) were tested in separate ordinary least squares regressions. The sample was 51.0% female, 43.7% nonwhite, 35.5% aged ≥ 65 , with mean K-Wood-MAS-4 0.64 ($SD=0.88$). Better adherence was associated with more positive net explicit attitudes ($\beta=-0.18$, 95% CI -0.30, -0.06, $p=0.003$), and worse adherence with higher explicit ambivalence ($\beta=-0.05$, 95% CI 0.01, 0.09, $p=0.028$). The associations with explicit attitudes and explicit ambivalence were significant for men ($\beta=-0.30$, 95% CI -0.48, -0.11, $p=0.002$ and $\beta=0.09$, 95% CI 0.03, 0.15, $p=0.005$, respectively) but not for women ($\beta=-0.07$, 95% CI -0.423, 0.09, $p=0.378$ and $\beta=-0.00$, 95% CI -0.06, 0.05, $p=0.982$, respectively) (p -values for interaction=0.062 and 0.031, respectively). No race or age differences were identified. Adherence was not associated with implicit attitudes or implicit ambivalence. In conclusion, explicit attitudes and explicit attitudinal ambivalence may underlie low adherence to antihypertensive medications, particularly for older men.

ASSOCIATION OF MULTIMORBIDITY WITH INCIDENT SHINGLES AMONG OLDER AMERICANS

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Older adults with multimorbidity are susceptible to shingles due to deterioration of immune function related to coexisting chronic disorders and immunological change. Although the association between individual chronic diseases and incident shingles has been documented, little is known about the effect of having multiple conditions on the risk for developing a new case of the disease. Multimorbidity is a normal condition with advanced aging. This paper examines risk of shingles onset associated with multimorbidity defined as having one or more chronic diseases including hypertension, diabetes, cancer, heart disease, lung disease, arthritis, and stroke) among older American. Data for this study come from the 1992 -2016 Health and Retirement Study. The study finds that risk for onset of shingles linearly increases with number of chronic disorders when age, gender, and race/ethnicity were adjusted (adjusted OR: 1.58, 95% CI: 1.37, 1.80 for those with 1 chronic condition vs adjusted OR: 3.43, 95% CI: 2.21, 5.53 for those with 6 conditions). The risks for multimorbidity were little changed after additional adjustments for socioeconomic status and health behaviors. The effect of multimorbidity on developing shingles

is greater among young-old adults in their 50s than among the older-old adults aged 80 and higher. Our finding challenges the single-disease framework that is often used in previous studies examining risk factors for shingles. Our finding highlights the need for primary prevention and treatment of multimorbidity for reduction of shingles cases among older adults, especially young old adults in 50s.

RURAL-URBAN DISPARITY IN BIOMARKER RISKS FOR CARDIOVASCULAR DISEASE AMONG CHINESE MIDDLE-AGED AND OLDER ADULTS

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Cardiovascular disease (CVD) is a leading cause of adult mortality in China, accounting for 45% of deaths from noncommunicable disease. Moreover, Chinese health status and health services are disproportionately divided between urban and rural areas. This study examined rural-urban differences in age trajectories of CVD risk, measured by C-reactive protein (CRP), high-density lipoprotein (HDL) cholesterol, body mass index (BMI), and waist circumference. This study also investigated whether community factors, including recreational amenities, infrastructure availability, physical environment, public facilities, and health services, may explain such rural-urban disparities. We used data from the baseline data of the China Health and Retirement Longitudinal Study (2011), including 11,528 respondents from 440 communities, who were aged 45 and older and participated in the biomarker survey. Multilevel models revealed that rural adults had a higher level of HDL and lower levels of CRP, BMI, and waist circumference compared to their urban counterparts. Rural adults also had slower age-related increases in trajectories for CRP, HDL and BMI. Associations of physical environment and public facilities with CVD risks were largely explained by rural-urban disparity. However, the availability of infrastructure explained both between- and within- rural-urban differences in BMI and waist circumference. Models were controlled for previously diagnosed CVD conditions, individual demographic characteristics, self-rated health, activities of daily living, depressive symptoms, physical activity, smoking and drinking behaviors. Findings contribute to the understanding of prevalence and disparities in biomarker risks for CVD among Chinese middle-aged and older adults. Intervention implications are discussed to address the emerging health disparities.

POORER DIET QUALITY OBSERVED IN OLDER ADULTS WITH A GREATER NUMBER OF CHRONIC DISEASES

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Unhealthy lifestyle behaviors, including poor diet over many years, contribute to the development of chronic diseases, especially overweight/obesity, hyperglycemia, hypercholesterolemia and hypertension. Because poor diet is common to the diseases, it supports the notion of concurrently managing comorbidities through improved diet. Therefore, the purpose of this study was to assess differences

in diet quality and nutrient intakes, in adults aged 65 years and older, by the number of chronic conditions. Data from 7,169 adults, aged 65 years and older, from the 2005-2016 National Health and Nutrition Examination Survey were assessed for selected chronic diseases from laboratory data: overweight/obesity (body mass index >25); hyperglycemia (glycated hemoglobin >5.7%); hypercholesterolemia (total cholesterol >200 mg/dL); hypertension (blood pressure >120/80 mmHg). The number of chronic diseases was computed per participant. Dietary intakes and diet quality score were assessed using 24-hour dietary recalls. Few adults had none of the selected chronic disease (n=79;1.4%), with others presenting 1 indicator (n=677;9.8%), 2 indicators (n=1,762;25%), 3 indicators (n=2,741;38.9%) and all 4 indicators (n=1,910;24.9%). Diet quality was significantly lower in those with three or four chronic diseases (P<0.001). Adults without any of the selected chronic diseases consumed significantly more calories, carbohydrates, fiber and added sugars, as well as folate, vitamin C and calcium than those with chronic diseases (P<0.001). Overall, dietary intakes from the day of intake were different for those with or without chronic diseases. These findings strengthen the need to promote healthy eating in older adults with one or more chronic conditions to help improve outcomes.

ASSOCIATION BETWEEN LEVEL OF PAIN AND DEPRESSION AMONG CHRONICALLY ILL OLDER ADULTS IN RURAL ALABAMA

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Pain and depression, two of the common symptoms among chronically ill older adults, have been found to be related in various populations; however, further knowledge is needed about their relationships and moderating factors among community-dwelling, chronically ill older adults, particularly in lower-income, rural areas with limited healthcare resources. Therefore, this study aimed to examine the association between pain level and depression among chronically ill older adults in rural areas. A total of 100 residents of a rural county in West Alabama, who are 55+ and have chronic illnesses and pain, were recruited from four community senior centers and were interviewed using a structured questionnaire. Pain levels were assessed by the Philadelphia Geriatric Center (PGC) Pain Scale, and depression by an abbreviated version of the Center for Epidemiologic Studies Depression Scale (CES-D). Bivariate correlation and multivariate analysis were conducted. The correlation between pain and depression was significantly positive ($r = .35$, $p < .001$). The results of the model indicated that pain scores and other control variables explained approximately 18 percent of the variance in depression. The multivariate analysis results confirmed that those who had higher pain scores were significantly likely to have increased depression scores ($b = 4.97$, $SE = 1.52$, $p < .01$). Education marginally significantly moderated the relationship between pain and depression ($p = .059$). The previously reported positive pain-depression relationship exists among chronically ill older adults in rural areas, calling for tailored interventions to reduce their pain and its impact on depression.