Muscle Strengthening Activity and Perceived General Health in West Virginia Adults

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Muscle strengthening activity (MSA) is encouraged for all adults due to its positive associations with health outcomes, including bone strength, muscular fitness, and perceived health. MSA is also associated with improved functional health and is recommended as part of a multicomponent physical activity program. West Virginia (WV) is currently the lowest-ranking U.S. state regarding the percentage of adults meeting MSA guidelines. Moreover, the extent to which health status influences MSA in this population is not understood. PURPOSE: To examine the associations between perceived general health and MSA in WV adults. METHODS: Data for this study came from the CDC's Behavioral Risk Factor Surveillance System (BRFSS). A total of 5,301 adult participants 18+ years of age residing in WV were extracted from the national dataset. The primary outcome variable was meeting MSA guidelines status, where respondents reporting 2+ days per week of MSA were considered to have met guidelines. The primary predictor variable was perceived general health, where participants rated their general health as "excellent," "very good," "good," "fair," or "poor." General health was also dichotomized, with those responding as good or better categorized as good and all others as poor. Control variables included smoking, alcohol consumption, obese status, age, sex, race/ethnicity, and income. Analyses included prevalence estimates (%) of meeting MSA guidelines and multiple logistic regression modeling. RESULTS: Overall, 26.1% (95% CI: 24.5% – 27.7%) of WV adults met MSA guidelines. Across subgroups, male, younger, other races, and more income populations met MSA guidelines at a higher prevalence than their counterparts. The prevalence of meeting MSA guidelines was also higher among those with good as compared to those with poor general health (28.9% versus 18.2%, p < .001) and followed a linear trend from poor to excellent health (p trend < .001). Additionally, adults with good general health saw an 83% increase in odds (OR = 1.83, 95% CI: 1.49 – 2.23) of having met MSA guidelines compared to those with poor health. After controlling for all covariates, these odds were reduced to an increase of 36% (OR = 1.36, 95% CI: 1.07 – 1.72). Finally, the general health and meeting MSA guidelines relationship was stronger (general health × sex p = .004) in males (OR = 1.43, 95% CI: 1.23 – 1.64, p trend < .001) than in females (OR = 1.21, 95% CI: 1.07 – 1.38, p trend = .004) moving from poor to excellent health. CONCLUSION: These findings indicate that perceived general health is predictive of and may influence MSA behavior in WV adults. SIGNIFICANCE/NOVELTY: Efforts to explain and address the low MSA in WV should be prioritized. This study is the first to examine the population-level link between perceived health status and MSA in WV adults.