

Clustering of Multimorbidity among Older Adults with Disabilities and Associations with Perceived Health Status

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Background

- Older adults with disabilities experience greater health disparities and subsequently higher prevalence of chronic illnesses.
- Historically, the prevalence and risk factors of a single chronic illness and its associations with health outcomes have been studied to address these disparities.
- However, recent studies have started to find that chronic illnesses are not independent but reciprocally interacting.
- Therefore, a multimorbidity approach to understanding illness clusters and their associations with perceived health status is warranted.

Objective

- To identify multimorbidity clusters and examine the association between identified latent classes and perceived health status among older adults with disabilities

Methods

- A cross-sectional secondary analysis using data from the 2020 Behavioral Risk Factor Surveillance System, a population-based survey of adults living in the United States
- Adults aged 65 years and over who answered having a disability in hearing, vision, cognition, and mobility were included
- Latent class analysis was conducted to identify multimorbidity clusters using 10 chronic illnesses
- Multivariate logistic regression, adjusted for sociodemographic factors (sex, race/ethnicity, education level, marital status, urbanicity, employment status), was performed to examine the relationship between identified latent classes and perceived health status

Results

Figure 1. Probabilities of Having Chronic Illnesses for Each Latent Class

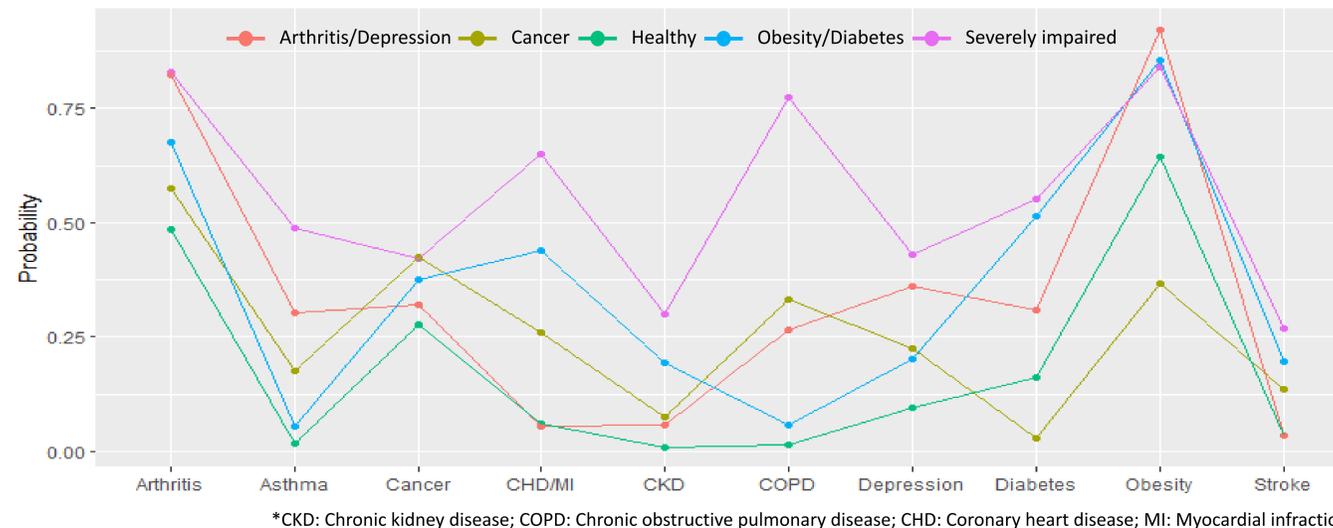


Table 1. Socio-demographic Factors within Each Class

	Healthy class (%) (n = 18,178)	Arthritis/Depression class (%) (n = 7,205)	Cancer class (%) (n = 6,796)	Obesity/Diabetes class (%) (n = 11,188)	Severely impaired class (%) (n = 3,794)	Comparison	p-value
Female	55.2	66.6	60.0	47.7	54.7	χ^2 (4): 680.86	<0.001
White	83.2	82.0	88.0	80.5	83.0	χ^2 (28): 360.34	<0.001
Black	6.0	7.3	4.5	8.5	7.1		
Asian	1.4	0.4	0.7	1.0	<0.1		
Hispanic	5.5	5.4	3.0	5.3	4.2		
Other	3.8	4.7	4.0	4.9	5.6		
Less than high school	8.3	9.8	10.4	10.8	14.0	χ^2 (12): 378.05	<0.001
High school	58.5	62.3	61.0	61.7	65.2		
College	33.0	27.7	28.4	27.3	20.5		
Married	47.2	42.7	37.0	46.0	38.4	χ^2 (4): 284.88	<0.001
Urban	80.1	81.0	80.6	80.3	80.7	χ^2 (4): 2.89	0.576
Employed	13.1	10.3	7.2	8.5	4.3	χ^2 (4): 416.14	<0.001

Table 2. Odds ratio of Reporting Poor Subjective Health Status

	Odds ratio	95% confidence interval	p-value
Healthy class	Reference	-	-
Arthritis/Depression class	2.84	[2.67, 3.16]	<0.001
Cancer class	2.95	[2.77, 3.14]	<0.001
Obesity/diabetes class	2.99	[2.83, 3.16]	<0.001
Severely impaired class	8.72	[8.04, 9.47]	<0.001

References available upon request junha.park@wisc.edu.

- A total of 47,161 older adults with disabilities were included in the study
- 5 classes were identified
 - Healthy class (38.5%): relatively low prevalence of all conditions
 - Arthritis/depression class (15.3%): high prevalence of obesity, arthritis, and depression
 - Cancer class (14.4%): high prevalence of cancer and COPD
 - Obesity/diabetes class (23.75%): high prevalence of obesity, arthritis, and diabetes
 - Severely impaired class (8.0%): higher probabilities of all chronic diseases than the other classes
- The five classes are significantly different in the proportion of sex, race/ethnicity, education level, marital status, and employment status
- Older adults with disabilities in all multimorbidity classes compared to the healthy class were significantly more likely to report poorer subjective health status

Implications

- Our findings broaden the understanding of multimorbidity in relation to perceived health among older adults with disabilities.
- Information gleaned from this study can help researchers develop and test tailored health interventions targeted at specific clusters with high risks of multimorbidity.
- Future research should consider exploring the impacts of disability-specific factors on multimorbidity clusters and its associations with health outcomes.
- The mechanisms behind the distinctive clusters should be further investigated.

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