

Characteristics Correlated with Limited Physical Functioning in US Adults with Arthritis: A Cross-Sectional Database Analysis of the Medical Expenditure Panel Survey

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Background

- Arthritis is a prevalent chronic condition experienced by over 53 million United States (US) adults and anticipated to rise to 78 million by 2040.
- Arthritis is an incapacitating disease with inflammation, pain, redness, reduced motion, stiffness, swelling, and/or tenderness of predominantly body joints.
- A person may have limited physical functioning if they have a lot of difficulty or cannot carry out any one of the following core realms: self-care, seeing, mobility, hearing, communication, and cognition.
- There is paucity of literature describing limited physical functioning among US adults with arthritis, which is necessary to investigate.

Objectives

- This analysis investigated the characteristics correlated with limited physical functioning among adults with arthritis in the US.

Methods

- This was a cross-sectional database study that utilized Medical Expenditure Panel Survey data.
- Eligible study subjects were adults ≥ 18 years with arthritis.
- Logistic regression models were applied to assess the correlation between several characteristics (age, sex, race, ethnicity, schooling, employment, marriage, household income, health insurance, pain, comorbid conditions, general health, mental health, exercise, smoking status) and whether the person had limited physical functioning (yes versus no).
- The a priori alpha level=0.05.

Table 1

Characteristics of United States adults in the weighted study population		
Variable	Limited physical functioning % [95% CI]	No limited physical functioning % [95% CI]
Predisposing variables:		
Age (years) ≥ 70	44.0 [40.9–47.0]	32.7 [30.5–35.0]
60–69	28.9 [26.1–31.7]	27.5 [25.4–29.6]
50–59	16.2 [13.6–18.7]	21.1 [19.1–23.2]
18–49	11.0 [8.9–13.1]	18.6 [16.4–20.8]
Female sex	64.4 [61.6–67.2]	58.7 [56.7–60.6]
White race	78.3 [75.4–81.2]	81.9 [79.6–84.3]
Hispanic	8.5 [6.6–10.3]	9.5 [7.7–11.3]
Enabling variables:		
High school or less schooling	46.8 [43.8–49.8]	39.6 [37.2–42.0]
Employed	23.6 [21.2–26.0]	49.9 [47.3–52.4]
Married	40.8 [37.6–44.0]	59.9 [57.7–62.2]
Low household income	44.8 [41.7–47.8]	23.5 [21.3–25.8]
Private health insurance	45.2 [42.1–48.2]	65.0 [62.5–67.4]
Need variables:		
Quite a bit/extreme pain	49.1 [46.0–52.2]	13.6 [11.5–15.6]
6+ comorbid conditions	12.6 [10.7–14.5]	3.2 [2.4–4.0]
Excellent/v. good general health	19.7 [17.2–22.2]	49.5 [47.1–51.9]
Excellent/v. good mental health	38.0 [35.1–40.9]	56.3 [53.8–58.9]
Exercise	32.3 [29.6–35.0]	54.0 [51.4–56.6]
Current smoker	17.1 [14.7–19.5]	11.9 [10.2–13.6]

CI = confidence interval. The difference between the groups with limited physical functioning and no limited physical functioning for each variable was assessed using the chi-squared test. There were significant differences between groups for all variables except ethnicity.

Table 2

Associations of the variables with limited physical functioning among United States adults with arthritis	
Variable	OR [95% CI]
Predisposing variables:	
Age ≥ 70 vs. 18–49 years	1.9 [1.2–2.9] *
Age 60–69 vs. 18–49 years	1.6 [1.1–2.5] *
Age 50–59 vs. 18–49 years	1.1 [0.7–1.7]
Female vs. male	1.3 [1.0–1.6] *
White vs. other race	1.0 [0.8–1.4]
Hispanic yes vs. no	0.8 [0.5–1.2]
Enabling variables:	
High school or less vs. > high school	0.7 [0.6–0.9] *
Employed vs. unemployed	0.7 [0.6–0.9] *
Married vs. not married	0.5 [0.4–0.6] *
Low vs. mid household income	1.1 [0.8–1.5]
Low vs. high household income	0.9 [0.7–1.3]
Private vs. no health insurance	2.0 [0.7–6.4]
Public vs. no health insurance	2.3 [0.7–7.2]
Need variables:	
Quite a bit/extreme vs. little pain	5.2 [4.0–6.8] *
Moderate vs. little pain	2.1 [1.6–2.7] *
6+ vs. 0–1 comorbid conditions	2.2 [1.5–3.4] *
4–5 vs. 0–1 comorbid conditions	1.7 [1.2–2.3] *
2–3 vs. 0–1 comorbid conditions	1.1 [0.8–1.4]
Excellent/v. good vs. poor health	0.4 [0.3–0.6] *
Good vs. poor health	0.7 [0.5–0.9] *
Excellent/v. good vs. poor mental health	0.9 [0.7–1.4]
Good vs. poor mental health	0.9 [0.7–1.3]
Exercise yes vs. no	0.7 [0.5–0.8] *
Current smoker vs. non-smoker	1.4 [0.9–2.0]

OR = odds ratio; CI = confidence interval. * = statistical significance

Conclusions

- Several characteristics of relevance to US adults with arthritis and their correlation with limited physical functioning have been identified in this analysis, which may warrant deeper investigation in future research.

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