Association of Various Characteristics with Self-Reported Exercise in adults age 50 years or older with self-reported pain in the past four weeks who also used an opioid

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Introduction

- Exercise is commonly used to help manage pain.[1] However, there is a lack of information about factors associated with exercise among older United States (US) adults with pain who have also used opioids.

Objective

- To assess the association between predisposing, enabling, and need characteristics and exercise status among older US adults with pain who used an opioid.

Methods

- Retrospective cross-sectional study using 2020 Medical Expenditures Panel Survey (MEPS) data.[2]
- Eligibility: aged ≥50 years with pain and used an opioid.
- Comparison groups: 30 minutes of moderate- to high-intensity exercise 5 or more times per week, yes or no.
- Chi-square tests were used to compare groups.
- Associations between exercise and predisposing, enabling, and need factors analyzed using logistical regression.
- The a priori alpha level was 0.05.
- Analyses accounted for the MEPS complex survey design and were weighted to produce national estimates.

Table 1. Characteristics of US adults ≥50 years with pain in the past four weeks who used an opioid

Characteristics	Frequent exercise N = 3,783,303 weighted percent (95% CI)	Infrequent exercise N = 6,812,863 weighted percent (95% CI)	p-value
Predisposing factors:			
Age ≥65	49.4 (42.2, 56.9)	54.7 (49.0, 60.4)	0.2711
Female	53.4 (47.0, 59.8)	64.5 (59.0, 69.9)	0.0145
White	84.9 (79.6, 90.1)	80.8 (77.2, 84.4)	0.2127
Non-Hispanic	94.3 (91.2, 97.4)	93.7 (91.2, 96.1)	0.7468
Enabling factors:			
Married	56.8 (49.4, 64.2)	46.4 (41.7, 51.1)	0.0226
More than high school education	54.4 (47.7, 61.2)	50.2 (44.9, 55.5)	0.3617
Unemployed	61.8 (54.8, 68.8)	77.3 (72.9, 81.6)	<0.0001
Middle income or higher	67.4 (60.5, 74.2)	60.2 (55.1, 65.2)	0.0914
Need factors:			
≥2 chronic conditions	82.9 (77.5, 88.2)	92.4 (89.8, 95.1)	0.0004
Physical health: good or better	77.4 (71.1, 83.6)	50.8 (46.0, 55.5)	<0.0001
Mental health: good or better	89.3 (85.3, 93.4)	74.8 (70.3, 79.4)	<0.0001
Non-smoker	86.3 (80.9, 91.7)	84.8 (80.6, 87.0)	0.4654
Overweight/obese	72.6 (64.1, 79.1)	78.4 (74.4, 82.5)	0.0825
No ADL limitation	97.3 (95.4, 99.3)	89.7 (86.2, 93.3)	<0.0001
No IADL limitation	92.2 (87.7, 96.8)	83.1 (78.3, 87.9)	0.0234
Pain severity: moderate or less	66.3 (59.4, 73.1)	47.7 (42.9, 52.5)	<0.0001

BMI=body mass index. ADL=activities of daily living. IADL=instrumental activities of daily living.

Table 2. Associations with frequent exercise in older US adults with pain who used opioids

Variables	Adjusted Odds Ratio (95% Confidence Interval)
Male vs. Female sex	1.754 (1.049, 2.932)
Physical health: good or better vs. fair or worse	2.279 (1.311, 3.964)

Limitations

- Retrospective study using secondary data that can only determine a statistical rather than temporal association.
- Potential for recall bias from MEPS participants.
- Unable to distinguish between acute and chronic opioid use.

Conclusions

- This study found an association between frequent exercise and male sex as well as frequent exercise and health status among older US adults with pain who used an opioid.
- Such characteristics may be targeted to initiate interventions to improve exercise status among this population.

References

[1] Hagen, K. B., Dagfinrud, H., Moe, R. H., Østerås, N., Kjeken, I., Grotle, M., & Smedslund, G. (2012). Exercise therapy for bone and Muscle Health: An overview of Systematic Reviews. BMC Medicine, 10(1). https://doi.org/10.1186/1741-7015-10-167

[2] Agency for Healthcare Research and Quality. Medical Expenditure Panel Survey Home. Retrieved from https://meps.ahrq.gov/mepsweb/

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