

Association of Marijuana Use and Health-related Quality of Life Among Cardiovascular Disease Patients. A Cross-Sectional Study.

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Background

Cardiovascular disease (CVD) is the leading cause of morbidity and mortality worldwide, significantly reducing patients' health-related quality of life (HRQoL). Despite growing legalization of marijuana, its effects on HRQoL in CVD patients remain relatively unexplored.

Objective

This study evaluates the association between marijuana use and HRQoL among individuals with CVD.

Methods

Study Design and Data source:

This was a cross-sectional study using the 2023 Behavioral Risk Factor Surveillance System (BRFSS) dataset.

Study population:

- 18 years and older with self-reported CVD
- States or territories that administered the marijuana optional module

Exposure variables:

Marijuana use is defined as one or more days of marijuana use in the past 30 days.

Outcome variables:

- **Primary Outcome:** HRQoL as measured by the EuroQol 5-Dimension (EQ-5D) index [$<0-1$], and EuroQol visual analogue scale (EQ VAS) [0-100].
- **Secondary Outcomes:** (1) Self-reported general health, (2) poor mental and (3) physical health days, and (4) activity limitation days

Statistical analysis:

- Multivariate Tobit, logistic, and multinomial regression models adjusting for demographic and clinical covariates
- Subgroup analysis between younger adults (<55 for men and <65 for women) and older adults (≥ 55 for men and ≥ 65 for women).
- All analyses were performed using STATA 17 and Tableau, accounting for the complex survey design.

Results

- The weighted sample included 3,942,832 non-users (88%) and 544,515 current marijuana users (12%). Among non-users, 54% were female and 38% were aged <65 years, compared with 59% female and 72% aged <65 years among users.
- Current marijuana use was associated with significantly lower EQ VAS scores and higher odds of reporting poor mental health days.

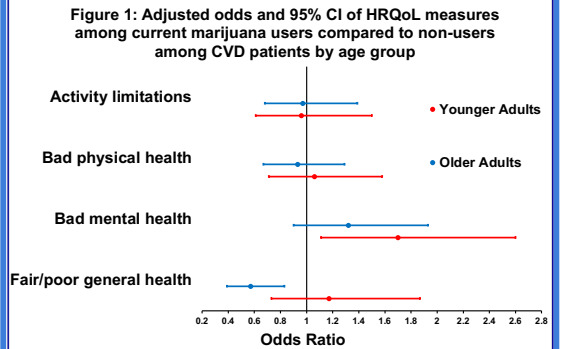
Table 1: Adjusted coefficients of HRQoL measures among current users compared to non-users with CVD.

	Adjusted coefficient	95% CI
EQ-5D	-0.021	-0.04, 0.002
EQ VAS	-2.67	-5.18, -0.17
	Odds Ratio	95% CI
Fair/poor general health	0.88	0.64, 1.23
Poor mental health	1.59	1.17, 2.16
Poor physical health	1.047	0.81, 1.35
Activity limitations	1.018	0.75, 1.37

- Current marijuana users had lower weighted EQ-5D index mean (Linearized standard error) [0.68 (0.012)] compared non-users [0.72 (0.004)] in the overall sample.
- Current marijuana users had lower weighted EQ VAS score mean [60.3 (1.28)] compared non-users [65.5 (0.46)] in the overall sample.

Adjusted coefficients of HRQoL by age group:

- **Younger adults:**
 - EQ-5D index: -0.035 [95% CI: -0.069, -0.0003].
 - EQ VAS: -4.46 [95% CI: -8.10, -0.82].
- **Older adults:**
 - EQ-5D index: 0.00059 [95% CI: -0.028, 0.029].
 - EQ VAS: 0.22 [95% CI: -3.015, 3.46].



Conclusion

- Current marijuana use was associated with worse mental health and lower HRQoL among CVD patients, with effects more pronounced in younger adults.
- No consistent associations were observed for physical health or activity limitations.
- Older adults reported better general health; however, this finding should be interpreted cautiously given potential differences in reporting, selection, or underlying health status.
- Limitation: Cross-sectional design limits causal inference.
- Strengths: Large, population-based sample with age-stratified analyses
- Findings support the need for routine assessment of marijuana use and age-specific counseling in CVD care.