



Research Brief

Mortality Beyond the First Year After Spinal Cord Injury Does Body Mass Index Matter?

Introduction

To examine the association between body mass index (BMI [calculated as weight in kilograms divided by height in meters squared]) and mortality after the first year post spinal cord injury (SCI) overall and across demographic and injury characteristics.

Key Findings

- A total of 2346 participants (N=2346) with SCI were classified into 1 of the 8 BMI groups: <18.5 (6.9%), 18.5-19.9 (7.3%), 20.0-22.49 (15.0%), 22.5-24.9 (18.8%), 25.0-27.49 (17.5%), 27.5-29.9 (13.2%), 30.0-34.9 (13.5%), and ≥ 35.0 (7.8%).
- Compared with people with BMI of 22.5-29.9, a higher mortality risk was observed among people with BMI<18.5 (HR, 1.76; 95% CI, 1.25-2.49), 18.5-19.9 (HR, 1.51; 95% CI, 1.06-2.15), and ≥ 35.0 (HR, 1.51; 95% CI, 1.11-2.07)
- After adjusting for confounding factors (sex, age at the time of BMI assessment, marital status, neurologic status). The U-shape BMI-mortality relationship varied by age, sex, neurologic status, and years since injury.

Conclusion

After the first year post SCI, people with BMI<20.0 and ≥ 35.0 have a higher risk of mortality, similar to the general population. To improve life expectancy after SCI, health care professionals could focus on weight management among patients with relatively low and extremely high BMI, defined by demographic and injury-related characteristics. Future studies should explore factors that contribute to a higher mortality after SCI, including pre-existing conditions, poor diet and/or nutrition, and cardiorespiratory fitness. The effects of BMI on cause-specific mortality also deserve further investigation.

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