

The Impact of Age on Military Trauma Outcomes: A Retrospective Analysis

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Introduction

- Age is a well-established prognostic factor in civilian trauma, where adverse outcomes increase at older ages, whereas differences across younger adult age groups are generally minimal.
- Whether this pattern holds true in military trauma, where populations, injury mechanisms, and systems of care differ fundamentally, remains uncertain.
- A period of large-scale mobilization of Israeli Defense Forces reservists provided a unique opportunity to examine the association between age and combat-related injury outcomes in military settings.

Methods

- This retrospective cohort study included IDF casualties recorded in the IDF Trauma Registry and the Israel National Trauma Registry between October 27, 2023, and January 19, 2025.
- Participants were categorized by age into three groups: 18–21 years (active duty), 22–39 years (reserve service), and ≥ 40 years (extended reserve volunteers).
- Primary outcomes included 24-hour and 30-day mortality, ICU admission, and hospitalization lasting ≥ 7 days.

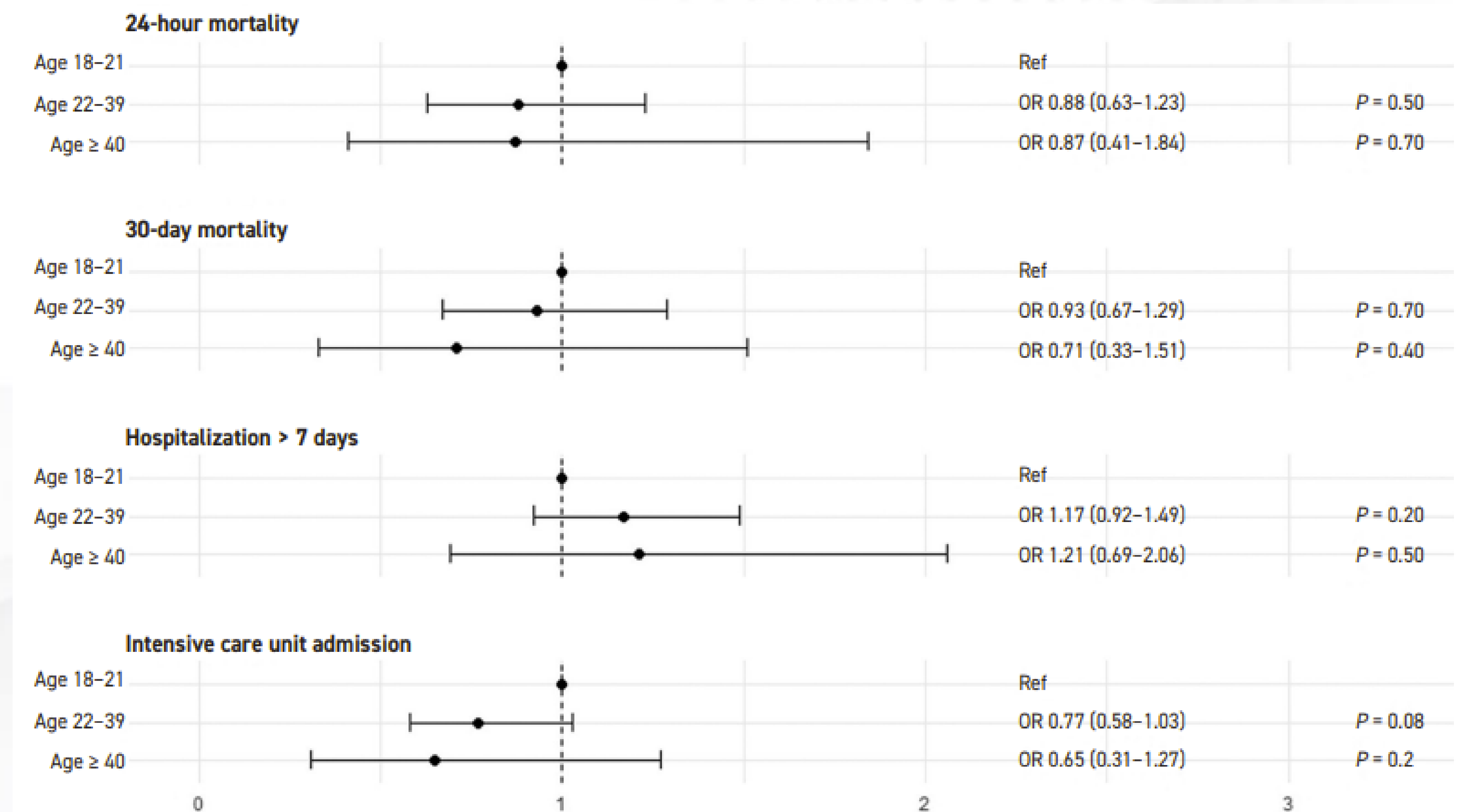
Results

- Of 4,970 included casualties (aged 18–66), 40% were aged 18–21, 53% were aged 22–39, and 5% were ≥ 40 years old.
- Injury severity, evacuation times, prehospital interventions, and admission vital signs were similar across groups.
- Adjusted analyses showed no significant age-related differences in mortality, ICU admission, or prolonged hospitalization. Subgroup analysis of casualties with injury severity score (ISS) ≥ 16 yielded comparable results.

Conclusion

- In this large military trauma cohort, no statistically significant association was found between age and mortality, ICU admission, or prolonged hospitalization.
- These findings were observed in a generally healthy military population receiving organized trauma care and suggest that, within this context, chronological age alone may not be an appropriate criterion for determining reserve service eligibility.

Figure1: Risk for 24-hour mortality, 30-day mortality, hospitalization lasting ≥ 7 days, and intensive care unit admission in casualties aged 22–39 years or ≥ 40 years compared to casualties aged 18–21 years



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