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ProtAct-Us: A Study on the Long-Term Impact of Road Traffic Crashes in Europe

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INTRODUCTION

Despite advancements in emergency care and prevention, many road traffic crash (RTC) survivors suffer from enduring impairments that are insufficiently considered and registered in hospital records or existing surveillance systems. Building upon evidence from prior initiatives [1-3], this study aims to (1) assess the multidimensional long-term outcomes of RTCs, (2) identify early predictors of functional and psychological recovery, and (3) inform data-driven strategies for post-injury rehabilitation and health system planning.

AIM

The ProtAct-Us from Long-Term Consequences of Road Crashes (ProtAct-Us), a project funded by the European Union, addresses a critical, yet often underexplored, multidimensional aspect of road safety: the long-term consequences of road traffic crashes (RTCs) on individuals' physical, cognitive, psychological, and socio-economic well-being.

METHODS

This multicentre, prospective, observational longitudinal study will be conducted across Germany, Greece, and Italy. The study population comprises adults (≥18 years) involved in RTCs, enrolled through hospitals, trauma centres, or on the accident scene from June to December 2025. Consecutive sampling will be performed until the minimum required sample size of 120 subjects is collected. Informed consent will be obtained in compliance with national regulations. Data will be collected at two timepoints: baseline (within 30 days after the accident) and 12 months post-injury. Validated instruments will be used, covering health-related quality of life (EQ-5D), cognitive function (MoCA), psychological status (CES-D, IES-R), social support (MOS), and economic burden (Muarc). Variables related to injury characteristics, health history, and contextual factors (e.g. access to care, social and work reintegration) will also be recorded.

STATISTICAL ANALYSIS

Descriptive analyses will summarise the sample's clinical, psychological, and socio-demographic features. Recovery trajectories and outcome prevalence at 12 months will be analyzed. Univariate analyses will explore associations between potential predictors and outcomes. Multivariate regression will identify independent predictors of poor recovery, such as persistent pain, psychological distress, or reduced participation in the daily activities.

CONCLUSION

By integrating medical, psychological, cognitive, and socio-economic data, the ProtAct-Us study will try to provide a comprehensive understanding of the long-term burden of RTCs. This multidimensional approach is expected to generate evidence-based recommendations to improve recovery pathways, tailor rehabilitation programs, and enhance policy responses. Findings will contribute to a more person-centred and sustainable management of the road traffic injury consequences for all road traffic users. Findings from ProtAct-Us will contribute to evidence-based public health and policy-making by quantifying the long-term burden of RTCs and identifying modifiable risk factors, ultimately supporting more effective post-crash care strategies.

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