

Out-of-Hospital Cardiac Arrest in the Karlovy Vary Region in 2023: An Utstein-Style Report

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Introduction: The Emergency Medical Services (EMS) of the Karlovy Vary Region, serving over 295,000 residents, faces the critical challenge of managing out-of-hospital cardiac arrests (OHCA). Effective cardiopulmonary resuscitation (CPR) is essential for survival, requiring coordinated efforts from dispatch to first responders. This article analyses the quality of CPR in 2023 using the Utstein protocol, following an internal audit that introduced a feedback system to enhance outcomes.

Methods: This study retrospectively examines the 2023 Cardiac Arrest Registry of the Karlovy Vary Region using the 2024 Utstein template. Data were analysed with descriptive statistics and verified with defibrillator and GPS records. The closed registry adheres to strict data protection standards, with reports presented anonymized.

Results: The primary outcome of OHCA, defined as survival to hospital admission, was 36%. The secondary outcomes, defined as survival to discharge or 30 days, were 15.1% with a good neurological outcome at discharge or 30 days (CPC 1 or 2) in 12.2%.

Discussion: The results of this study indicate that the EMS of the Karlovy Vary Region is performing well in several areas, with outcomes that surpass the Czech Republic average reported in the EuReCa TWO and ONE studies, particularly in terms of survival rates and neurological outcomes. This suggests that the local methods for managing out-of-hospital cardiac arrests are effective and that improved coordination and quicker responses might be key contributing factors.

Conclusion: In 2023, the incidence of OHCA was 133 per 100,000 inhabitants, with a resuscitation rate of 43.9%. Layperson CPR was frequently initiated. Survival to hospital admission was 36%, while survival to discharge or 30 days was 15.1%. A good neurological outcome was achieved in 12.2% of cases.

Key words: cardiopulmonary resuscitation, out-of-hospital cardiac arrest, Utstein protocol, epidemiology.

Mimonemocniční srdeční zástava v Karlovarském kraji v roce 2023

Úvod: Zdravotnická záchraná služba Karlovarského kraje (ZZS KVK), poskytující péči na území kraje o 295 000 obyvatelích, se potýká s problematikou mimo nemocniční zástavy oběhu (OHCA). Efektivní kardiopulmonální resuscitace (KPR) je zásadní pro přežití pacientů a vyžaduje koordinovanou spolupráci od dispečerů až po členy zasahujících výjezdových skupin. Tento článek se zaměřuje na analýzu kvality poskytované KPR v roce 2023 na základě Utsteinského protokolu, na který navazuje nastavení

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Declaration of originality:

The manuscript is original and has not been published or submitted elsewhere.

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Ethical principles compliance:

The authors attest that their study was approved by the local Ethical Committee and is in compliance with human studies and animal welfare regulations of the authors' institutions as well as with the World Medical Association Declaration of Helsinki on Ethical Principles for Medical Research Involving Human Subjects adopted by the 18th WMA General Assembly in Helsinki, Finland, in June 1964, with subsequent amendments, as well as with the ICMJE Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals, updated in December 2018, including patient consent where appropriate.

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