Letter to editor

Siddarth David

Chandrika Verma

A recent paper from Malawi compared the risk of mortality among vehicular trauma patients transported by different modes of transport [1]. After adjusting for injury severity, the paper reported higher risk of mortality among patients transferred by police vehicles. India, with a large trauma burden, has limited availability of ambulances consequently, other forms of transport, such as police vans are used [2-4].

We used the TITCO-India data set, based on data from four tertiary care hospitals across urban India (collected between 2013-2015), to measure the risk of mortality by mode of transportation to the hospital in directly admitted vehicular trauma patients. We estimated the relative risk of mortality using a Poisson multivariate regression. We adjusted for age, sex, and trauma severity using Injury Severity Score (ISS).

|  |  |
| --- | --- |
| Table 1: Demographic Characteristics of directly admitted Vehicular Trauma in TITCO-India Data set | |
| **Variable** | **Summary** | |
| Gender (female %) | 13.66 | |
| Age, years, mean (SD) | 35.4 (12.9) | |
| ISS, mean (SD) | 11.6 (7.01) | |
| **Mortality (%)** | **15.21** | |

Of the 16000 patients in the TITCO-India data set, 1668 were adult vehicular trauma patients who were directly admitted to the study sites. of these complete data set was available for 1157 patients.A brief demographic profile the study cohort is given in Table 1. The overall mortality was 15.21 per cent. The most common mode of transport used for direct vehicular trauma patients was police vehicles (39.59%), followed by ambulance (23.77%), private vehicles (21.87%), and public transport such as motor rickshaws and cars (14.52%).

|  |  |  |
| --- | --- | --- |
| Table 2: Poisson multivariate regression for mortality adjusted for Age, sex, ISS | | |
| **Mode of Transport** | **Patients Transported** | **Adjusted Relative Risk** | |
| Ambulance | 23.77 | Ref | |
| Police Vehicle | 39.59 | 1.50 | |
| Private vehicle | 21.87 | 0.78 | |
| Motor Rickshaw, Taxi car | 14.52 | 1.13 | |
| Others | 0.6 | 0.000002 | |

*\*Patients transported in per cent*

*\*\*Adjusted for Age, Sex, and Injury Severity Score*

The Poisson multivariate regression analysis showed that the relative risk of mortality for police vehicles was higher when compared to patients transported by ambulances (RR 1.5, 95% CI x–y, p = y), when adjusting for age, sex, and ISS. This was lower than the relative risk of mortality due to private vehicles or taxis and motor rickshaws when compared to ambulances (Table 2).

This analysis of the TITCO-India data set show similar results to the findings by the authors using data from Malawi. Therefore, there is a need to explore context-specific strategies such as training the police personnel to address the burden of trauma mortality in low-resource settings.

# References

1. Purcell LN, Mulima G, Nip E, Yohan A, Gallaher J, Charles A. Police Transportation Following Vehicular Trauma and Risk of Mortality in a Resource-Limited Setting. World Journal of Surgery. 2020;45:662–7. doi:[10.1007/s00268-020-05853-z](https://doi.org/10.1007/s00268-020-05853-z).

2. GBD 2019 Diseases and Injuries Collaborators. Global burden of 369 diseases and injuries in 204 countries and territories, 1990-2019: a systematic analysis for the Global Burden of Disease Study 2019. The Lancet. 2020;396:1204–22.

3. Subhan I, Jain A. Emergency care in India: The building blocks. International Journal of Emergency Medicine. 2010;3:207–11.

4. Dharap SB, Kamath S, Kumar V. Does prehospital time affect survival of major trauma patients where there is no prehospital care? Journal of postgraduate medicine. 2017;63:169–75.