

## Impact of weekend effect on postoperative mortality in patients undergoing emergency General Surgery procedures: Meta-analysis of prospectively maintained national databases across the world

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### Objectives:

To investigate the impact of weekend effect on postoperative mortality in patients undergoing emergency General Surgery operations across the world.

### Methods:

A search of electronic information sources was conducted to identify all studies investigating the weekend effect in patients undergoing emergency General Surgery operations. Emergency operation during weekend was considered as exposure of interest, emergency operation during weekdays as comparison of interest, and postoperative mortality as the outcome of interest. Random or fixed effects modelling were applied to calculate pooled outcome data.

### Results:

Overall, 10 studies, enrolling 394646 patients, were included. Worldwide, emergency general surgery operation during weekend was associated with a higher risk of postoperative mortality compared to weekdays (OR: 1.08, 95% CI 1.02, 1.14, P=0.008, moderate quality evidence). The weekend effect was variable across the world. Although emergency operation during weekend was associated with a higher risk of postoperative mortality in the USA (OR: 1.12, 95% CI 1.01, 1.24, P=0.03, moderate quality evidence) and Europe (OR: 1.37, 95% CI 1.11, 1.69, P=0.003, moderate quality evidence), there was no difference in postoperative mortality between weekend and weekday groups in the UK (OR: 1.04, 95% CI 0.97, 1.11, P=0.30, moderate quality evidence) and South Africa (OR: 0.79, 95% CI 0.44, 1.42, P=0.43, moderate quality evidence).

### Conclusions:

The weekend effect in emergency General Surgery is variable across the world. Although it seems to be significant in the USA and Europe, it does not increase the risk of postoperative mortality

in the UK. Future studies should focus on differences in staffing levels and available resources at weekends in emergency general surgery settings across the world.

### Biography

Ketevan Papidze Has graduated from Paediatric faculty of Tbilisi State Medical University (MD) and started her postgraduate education in Paediatric Surgery. During 3 years as junior paediatric surgeon she worked in Orthopaedic surgery, Suppurative Surgery, Neonatal surgery and General Surgery departments of TSMU paediatric clinic. She is currently working in YGC in UK as SHO in General Surgery and has previously worked in Urology, Breast Surgery and Vascular surgery.