|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | | |  |  |
| **Supplementary Digital Content**  **Figure 2** Published Literature on Daytime versus Nighttime Operations\* | | | | |  |  |
|  |  |  |  |  |  |  |
| **Study** | **Journal** | **Procedure** | **Sample Size** | **Outcome** | **Nighttime Definitions** | **Result** |
|  |  |  |  |  |  |  |
| *Positive Findings* | |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Linzey et al. (2017) | *Neurosurgery* | Neurological | 15,807 | Operative morbidity | 9:01PM-7:00AM | Nighttime operations were associated with higher morbidity (OR 1.53, CI 1.03-2.29, p=0.04) |
|  |  |  |  |  |  |  |
| Abella et al. (2016) | *Med Intensiva* | ICU Admissions | 1106 | Hospital mortality | 10:00PM-8:00AM | Offhours admission (nighttime, weekend, holidays) was associated with higher mortality (OR 2.00, CI 1.20-3.33) |
|  |  |  |  |  |  |  |
| Barbosa et al. (2015) | *Rev. Col. Bras. Cir.* | Emergency | 563 | Hospital mortality | 6:01PM-7:59AM | Nighttime admissions had higher mortality (p=0.014) and were an independent predictor of mortality (OR 3.15, CI 1.19-8.35) |
|  |  |  |  |  |  |  |
| Desai et al. (2015) | *J Neurosurg Pediatr* | Pediatric neurosurgery | 580 | 30-day morbidity and mortality | 7:01PM-7:19AM | After-hours (nighttime and weekend) operations were associated with higher morbidity and morbidity (OR 1.79, CI 1.08-2.96, p=0.227) |
|  |  |  |  |  |  |  |
| Kelz et al. (2008) | *Ann Surg* | Non-emergent procedures | 144,740 | Morbidity and 30 day mortality | 6:00PM-11:00PM | Nighttime operations had higher morbidity (OR 1.60, CI 1.25-2.04, p ≤ 0.005) and comparable mortality (OR 1.04, CI 0.63-1.72, p=0.88) |
|  | |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Study** | **Journal** | **Procedure** | **Sample Size** | **Outcome** | **Nighttime Definitions** | **Result** |
|  | |  |  |  |  |  |
| *Negative Findings* | |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Patel et al. (2018) | *J Trauma Acute Care Surg* | Appendenctomy | 25,874 | Perioperative complications | 12:00AM-8:00AM | Nighttime operations were comparable to daytime (OR 0.9, CI 0.77-1.04, p=0.16) |
| Fernandes et al. (2016) | *Int J Colorectal Dis* | Colorectal | 330 | Post-operative morbidity and 30-day mortality | 9:00PM-7:59AM | Nighttime operation mortality rate (p=0.894), medical morbidity (p=0.362) and surgical morbidity (p=0.165) were comparable to daytime |
|  |  |  |  |  |  |  |
| Kristiansen et al. (2016) | *Int J Qual Health Care* | Hip Fracture | 25,305 | 30-day mortality | 3:00PM-7:00AM | Nighttime operatons were comparable to daytime (OR 0.91, CI 0.8-1.04) |
|  |  |  |  |  |  |  |
| Tischenkel et al. (2016) | *J Intensive Care Med* | Extubations | 2240 | In-hospital mortality (secondary outcome) | 7:00PM-6:59AM | Nighttime operations was comparable to daytime (OR 0.6, CI 0.3-1.0, p=0.06) |
|  |  |  |  |  |  |  |
| Zafar et al. (2015) | *Am J Surg* | Exploratory Laparotomy | 31,205 | Hospital mortality | 12:00AM-6:00AM | Nighttime operations was comparable to daytime (OR 0.97, CI 0.89-1.06, p<0.001) |
|  |  |  |  |  |  |  |
| Switzer et al. (2014) | *Geriatr Orthop Surg Rehabil* | Hip Fracture | 1443 | Complications, 30-day mortality | 4:00PM-6:59AM | Nighttime operations were comparable to daytime with respect to mortality (p=0.99) and complications (p=0.59) |
|  |  |  |  |  |  |  |
| Turrentine et al. (2010) | *J Trauma* | Nonemergent General and Vascular Surgery | 10,426 | Post-operative morbidity and 30 day mortality | 7:00PM-6:59AM | Nighttime operations were comparable to daytime with respect to complications (p=0.39 to p=0.92) and mortality (p=0.44) |
|  |  |  |  |  |  |  |
| Lonze et al. (2010) | *Am J Transplant* | Liver Transplantation | 578 | Post-operative complications | 3:00PM-3:00AM | Nighttime operations were comparable to daytime (OR 1.34, CI 0.93-1.94, p=0.1) |

\*This figure was constructed using results from a literature search of the PubMed database. The initial query was: (MeSH[postoperative complications] AND MeSH[Night Care]). After this, the following MeSH terms were queried individually: Postoperative Complications, Hospital Mortality, Neurosurgical Procedures, Perioperative Period, Night Care. Finally, the same terms, not indexed as MeSH terms, were used to query the PubMed database in order to find literature that had not yet been associated with MeSH terms. This is not a robust search. Only studies with large sample sizes (n > 300) were included in the figure.