**Supplemental Table 48. Description of studies that have evaluated a multi-component sleep protocol in the ICU**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **First author and year** | **Study design** | **Population** | **Intervention components** | **Outcomes studied** | **Sample size per group** | **Results** | **Limitations** | **Quality of evidence** |
| Hu 2015 [1] | RCT | Heart surgery patients (2/3 valves) in ICU for ≥ 48 h | Earplugs and eye masks at night and 30 min of relaxing music (vs usual care) | Patient self-reported sleep (RCSQ) | 20 intervention, 25 control | Perceived sleep quality better in the intervention group | Allocation concealment unclear. Outcome assessments not blinded. Population not generalizable.  | Low to very low; highest for sleep quality and delirium. |
| Kamdar 2013 [2] | Observational pre- postintervention | Medical ICU ≥ 24 h  | 1. Nighttime environmental interventions.Daytime interventions to promote normal circadianrhythms and nighttime sleep.2. Aboveplus nonpharmacological sleep aids.3. Pharmacologic guideline added for patients unable to sleep despite the Stage1 and 2 interventions | In ICU: Patient sleep on RCSQ reported by patients or assessed by nurses if needed (45%).Delirium (CAM-ICU). Post-ICU:Patient retrospective sleep repost (SICQ).Neuro cognitive function.LOS.Mortality.  | 122 baseline178 intervention | No improvement in sleep quality.Delirium decreased. No reduction in ICU or hospital length of stayor mortality | Low uptake of some internventions especially ear plugs, eye shades and music.  | Very low |
| Li 2011 [3] | Observational pre- postintervention | Med-surg ICU | Eye shades plus earphones with relaxing music | Sleep – self-reported.Deliium CAM-ICU | 15 baseline, 13 intervention | No improvement in self-reported sleep.No decrease in delirium | Small sample size | Low |
| Patel 2014 [4] | Observational pre- postintervention | Med-surg ICU ≥ 1 night, off sedation 24 h. | Noise and light reduction, patient care practices to minimise interruptions, target sedation, early mobilization; simultaneously introduced. | Self-reported sleep (RCSQ)Delirium – CAM-ICU | 31 baseline, 29 intervention  | Improved self-reported sleep quality.Decreased delirium. | Unclear if patients still affected by sedatives. | Very low |

RCSQ – Richards-Campbell Sleep Questionnaire; CAM-ICU – Confusion Assessment Method for the ICU; SICQ – Sleep in Intensive Care Questionnaire

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