**Supplemental Table 28. Characteristics of Single Intervention Non-Pharmacologic Studies Focusing on Delirium Reduction**

.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Author****(year)** | **Design** | **Population** | **Intervention** | **Control**  | **Summary delirium related Results (intervention vs control)** | **Limitations** | **Risk of bias** |
| Taguchi(2007) [1]  | RCT | Surgical ICU (esophageal cancer operation) | N=6Bright Light Therapy (BLT of 5000Lux) | N=5 No BLT  | -Delirium: 17% vs. 40%; *p=0.42* (using NEECHAM) | - small sample size- no intention to treat analysis- no clear inclusion/exclusion criteria reported- significant loss to follow-up-used a not recommended ICU delirium assessment tool | High risk |
| Ono(2011) [2] | RCT | Surgical ICU (esophageal cancer operation) | N=10Bright Light Therapy (BLT of 5000Lux) | N=12 No BLT  | - Delirium: 10% vs. 42% (using NEECHAM) *= not significant*- LOS-ICU: 5days vs. 4.1days; *p=0.22* | - small sample size- no intention to treat analysis - significant loss to follow-up- no clear inclusion/exclusion criteria reported-used a not recommended ICU delirium assessment tool | High risk |
| Simons(2016) [3] | RCT | Mixed ICU | N=361Dynamic Light Therapy (DLA of 1700Lux) | N=373No DLA | - Delirium: 38% vs. 33%; *p=0.16* (using CAM-ICU)-28-days delirium-coma-free days: 26days vs. 27days; *p=0.29*- Duration of delirium: 2days vs. 2days; *p=0.87*-Time to onset delirium: 3days vs. 2days; *p=0.61*- LOS-ICU: 4days vs 4days;*p=0.82*- LOS-Hospital: 15days vs 16days; *p=0.84**-* Hospital mortality: 18% vs 20%; *p=0.66* | - sufficient amount of light exposition in dose and exposure? | Low risk |
| Black(2011) [4] | Before-after | Mixed ICU | N=69Nurse-facilitated family participation | N=69Usual care   | - Delirium: 29% vs. 77% (using ICDSC); *p=NS* - Psychological recovery scores (significant lower in intervention group at all 3 time points compared with control group)- LOS-ICU: 10.2days vs 15.3days; *p=NS* | - before-after study- no intention to treat analysis- significant loss to follow-up- intervention difficult to externally validate and extrapolate- publication 6 years after data collection  | High risk |
| Lee (2013) [5] | Before-after | Cardiac surgery ICU  | N=49Perioperative Psycho-education | N=46No psycho-education | - Delirium: 12% vs. 35%; *p=0.009* (using review of all patients’ medical records for signs of delirium)- Duration of delirium: mean 7days vs. 15days; *p=0.09* | - before-after study- delirium before inclusion was not an exclusion criterion - delirium diagnose retrospectively using medical records | High risk |

**References**

1. Taguchi T, Yano M, Kido Y: **Influence of bright light therapy on postoperative patients: a pilot study**. *Intensive Crit Care Nurs* 2007, **23**(5):289-297.

2. Ono H, Taguchi T, Kido Y, Fujino Y, Doki Y: **The usefulness of bright light therapy for patients after oesophagectomy**. *Intensive & critical care nursing : the official journal of the British Association of Critical Care Nurses* 2011, **27**(3):158-166.

3. Simons KS, Laheij RJ, van den Boogaard M, Moviat MA, Paling AJ, Polderman FN, Rozendaal FW, Salet GA, van der Hoeven JG, Pickkers P *et al*: **Dynamic light application therapy to reduce the incidence and duration of delirium in intensive-care patients: a randomised controlled trial**. *The lancet Respiratory medicine* 2016, **4**(3):194-202.

4. Black P, Boore JR, Parahoo K: **The effect of nurse-facilitated family participation in the psychological care of the critically ill patient**. *Journal of advanced nursing* 2011, **67**(5):1091-1101.

5. Lee J, Jung J, Noh JS, Yoo S, Hong YS: **Perioperative psycho-educational intervention can reduce postoperative delirium in patients after cardiac surgery: a pilot study**. *International journal of psychiatry in medicine* 2013, **45**(2):143-158.