**Supplementary material**

METHODS

**Procedures**

After verifying all eligibility criteria, the research assistant asked the patients if they were willing to participate in the study and obtained their signed written consent. This study did not interfere with the ED usual health care management. All were active ED patients who slept in an area composed of 23 stretchers. Each stretcher location was delimited by soft removable curtains, and located around a central control station. The ambient light level was lowered around 10 o’clock to help patients sleep. Demographic, health, and treatment care variables were derived from the computerized ED database (MedUrgeTM, MediaMed Technologies, Mont-Saint-Hilaire, Québec, Canada). Variables included age and sex, pain intensity at triage, arrival mode, discharge destination, previous night sleeping pills use, delay between ED arrival and sleep interview, and ED length of stay.

**Data analysis and statistics**

Descriptive statistics are presented as means (±SD) for continuous variables, and as frequencies and percentages for categorical variables. The paired t-test was used to determine subjective ED sleep quality compared to the past week at home. Subjective sleep quality in relation to participant and environmental variables was assessed using Pearson’s correlation coefficients. To determine which variables best predicted ED subjective sleep quality, a multiple stepwise regression analysis was performed using variables that obtained p-values less than or equal to 0.10 in the correlations analysis.

Supplementary table. Participants’ characteristics.

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| --- | --- |
| Characteristics | Total (N=235) |
| Mean (SD) age | * 1. (20.0) |
| % age category - <65 years  - ≥65 years | 45.4  54.9 |
| % female | 51.1 |
| % priority at triage - low (3,4,5)  - high (1,2) | 67.2  32.8 |
| % arrival - ambulance  - standing | 47.2  52.8 |
| % - admitted  - returning home  - transfered | 52.8  44.7  2.6 |
| % who took sleeping pills the evening before | 21.7 |
| % who had a heart rate monitor | 31.9 |
| Mean (SD) pain intensity (0–10 NRS) at triage for patients who underwent pain assessment (N=113) | 5.6 (3.1) |
| Median delay (h) between ED arrival and sleep interview (IQR) | 20.0 (8.9) |
| % assessed after first night at ED | 80.0 |
| Median (IQR) ED length of stay in hour | 29.5 (21.1) |

SD: standard deviation; ED: emergency department; IQR: interquartile range; NRS: numerical rating scale.