

Insomnia after Sepsis

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Problem

Insomnia is common among ICU survivors, associated with impairments in mental and physical health-related quality of life (HrQoL). Diagnosed severe sepsis or septic shock may serve as indicator for severity in critical illness. Aim of this study is to evaluate the association of insomnia in sepsis survivors and their HrQoL 6 and 12 month post-intensive care unit (ICU).



Methods

143 survivors of severe sepsis were screened for symptoms of insomnia (RIS, T2) and reported nightmares (PTSS10 T1, T2). The Regensburg Insomnia Scale (RIS) is a self-rating scale to assess cognitive, emotional and behavioural aspects of psychophysiological insomnia (PI) with ten items. The PTSS-10 questionnaire is a self-reported tool assessing ten symptoms related to PTSD. The sleep-related symptoms of PTSS 10 are sleep disturbance, nightmares. HrQoL was assessed prospectively at 6 month post-ICU. Multivariate analysis using the GLM was performed using parameters of ICU documentation (ventilation, dialyses) and age as covariates.



Results

30.1% of the patients show insomnia symptoms post ICU (N=42), being likely for symptom persistence at 6 month post ICU ($p=0.02$), reduced HrQoL (general health $p=0.03$) and bodily pain ($p=0.03$).

Insomnia symptoms (RIS T2) are predictors of impairments in mental and physical health-related quality of life (bodily pain ($p=0.026$), general health ($p=0.007$), vitality ($p=0.014$) and social function ($p=0.01$) – see Table 2.

	Mean or percent	SD
Age	61.1	14.861
Female	37.8 %	
PCS before ICU	42.5	12.7
MHS before ICU	53.1	9.6
ICU ventilation (days)	16.99	20.452
ICU Dialyse (days)	3.54	8.662
ICU Sedativa (days)	6.77	8.71
ICU LOS (days)	36.05	28.486
PCS after ICU	24.7	8.0
MHS after ICU	49.2	12.6
Nightmares on ICU	51.1%	
Nightmares one month after ICU	26.0 %	
Sleep disorders one month after ICU	71.0 %	

Tab.1: Baseline

dependent variables	parameters	B	SE	t	Sig.	95 % CI
Bodily pain (t3, BP)	incept.	96.836	28.624	3.383	0.001	39.67 154.003
	age	-0.011	0.302	-0.037	0.971	-0.614 0.592
	RIS_t2	-1.193	0.525	-2.272	0.026	-2.241 -0.144
	ventilation on ICU	73.857	59.479	1.242	0.219	-44.932 192.645
	dialysis on ICU	-23.324	31.156	-0.749	0.457	-85.547 38.899
General health (t3, GH)	female	-11.139	26.831	-0.415	0.679	-64.723 42.446
	incept.	104.327	17.29	6.034	0	69.796 138.857
	age	-0.332	0.182	-1.822	0.073	-0.696 0.032
	RIS_t2	-0.876	0.317	-2.762	0.007	-1.509 -0.242
	ventilation on ICU	-67.427	35.927	-1.877	0.065	-139.179 4.324
Vitality (t3, VT)	dialysis on ICU	-31.631	18.819	-1.681	0.098	-69.215 5.954
	female	-19.968	16.207	-1.232	0.222	-52.334 12.399
	incept.	70.014	20.093	3.485	0.001	29.886 110.142
	age	-0.241	0.212	-1.14	0.259	-0.665 0.182
	RIS_t2	-0.929	0.369	-2.52	0.014	-1.665 -0.193
Social function (t3, SF)	ventilation on ICU	-27.844	41.752	-0.667	0.507	-111.228 55.54
	dialysis on ICU	16.886	21.87	0.772	0.443	-26.791 60.563
	female	25.816	18.834	1.371	0.175	-11.798 63.43
	incept.	94.603	22.699	4.168	0	49.271 139.936
	age	0.042	0.239	0.177	0.86	-0.436 0.52
Social function (t3, SF)	RIS_t2	-1.106	0.416	-2.657	0.01	-1.937 -0.275
	ventilation on ICU	47.684	47.166	1.011	0.316	-46.513 141.882
	dialysis on ICU	11.875	24.706	0.481	0.632	-37.467 61.216
	female	-3.607	21.276	-0.17	0.866	-46.099 38.885

Tab.2: Results of multivariate analysis (GLM)

Limitations

Insomnia symptoms (RIS) were queried only for the second and third measurement point (T2, T3) in sepsis patients. Because, sleep disorders or insomnia symptoms were not the primary outcome in the Smooth study. Therefore, the Sleep disorders was not measured at the measuring time T1 with the RIS questionnaire. Additional information on sleep behavior before sepsis are only rarely by the diagnosis of the general practitioner.

Conclusion

Insomnia symptoms post ICU might indicate long term HrQoL impairments. Affected patients may benefit from further clinical evaluation.

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