

SUPPLEMENTAL 2- SUBGROUP ANALYSIS OF PATIENTS WITH MENTAL HEALTH DIAGNOSES

Methods

A subgroup analysis was performed to calculate the correlation between the EQ-5D pain and discomfort question and each of the BPI pain severity and pain interference scores for the cohort of patients who had pre-existing mental health diagnoses prior to ICU admission. As with the overall cohort analyses the Pearson correlation method was used to calculate partial correlation coefficients, adjusted for age and the presence of pre-existing chronic pain.

Results

Baseline Demographics: Patients with Pre-existing Mental Health Diagnoses

In the Intervention cohort at baseline, 3 months and 12 months 55 (32.0%), 40 (30.1%) and 36 (30.0%) patients had a pre-existing mental health diagnosis. In the Usual Care cohort at 12 months 26 (24.1%) patients had a pre-existing mental health diagnosis.

Pain Scores: Patients with Pre-existing Mental Health Diagnoses

For the subgroup of patients with pre-existing mental health diagnoses in the intervention cohort at baseline, 3 months and 12 months, the mean responses to the questions assessing severity of pain in the BPI were 4.60/10, 4.89/10 and 3.56/10, respectively. In relation to pain interference measured via the BPI, the mean responses at baseline, 3 months and 12 months were 5.34/10, 4.88/10 and 3.66/10 respectively.

At 12 months the mean response for the severity of pain question set was 5.53/10 for the subgroup of patients with pre-existing mental health diagnoses in the usual care cohort. In relation to pain interference measured via the BPI, the mean response was 6.80/10.

Mental Health Subgroup Analysis of the Correlation Between EQ-5D and BPI Outcome: Pain Severity

For the subgroup of patients with pre-existing mental health diagnoses prior to ICU admission in the intervention cohort at baseline, 3 months and 12 months the correlation coefficients comparing severity of pain via the BPI with the pain and discomfort question of the EQ-5D were 0.77 (CI 0.64-0.86), 0.84 (CI 0.72-0.91), and 0.81 (CI 0.66-0.90) respectively. For the subgroup of patients with pre-existing mental health diagnoses prior to ICU admission in the usual care cohort at 12 months the correlation coefficient was 0.69 (CI 0.42-0.85). **Table 1** displays the correlation coefficients.

Correlation <i>(Subgroup analysis of patients with pre-existing mental health diagnoses)</i>	Correlation Coefficient	Confidence Interval	P Value
EQ-5D vs BPI pain severity score			
Intervention cohort baseline	0.77	0.64- 0.86	<0.01
Intervention cohort 3 months	0.84	0.72- 0.91	<0.01
Intervention cohort 12 months	0.81	0.66- 0.90	<0.01
Usual care cohort 12 months	0.69	0.42- 0.85	<0.01
EQ-5D vs BPI pain interference score			
Intervention cohort baseline	0.75	0.60- 0.85	<0.01
Intervention cohort 3 months	0.80	0.65- 0.89	<0.01
Intervention cohort 12 months	0.80	0.64- 0.89	<0.01
Usual care cohort 12 months	0.64	0.34- 0.82	<0.01

Table 1- Correlation coefficients comparing the EQ-5D pain and discomfort question and the BPI pain severity and pain interference scores for the subgroup with pre-existing mental health diagnoses

Mental Health Subgroup Analysis of the Correlation Between EQ-5D and BPI Outcome: Pain Interference

For the subgroup of patients with pre-existing mental health diagnoses prior to ICU admission in the intervention cohort at baseline, 3 months and 12 months the correlation coefficients comparing the BPI pain interference score with the pain and discomfort question of the EQ-5D were 0.75 (CI 0.60- 0.85), 0.80 (CI 0.65- 0.89), and 0.80 (CI 0.64- 0.90) respectively. For the subgroup of patients with pre-existing mental health diagnoses prior to ICU admission in the usual care cohort at 12 months the correlation coefficient was 0.64 (CI 0.34- 0.82). **Table 1** displays the correlation coefficients.