

**Abstract 3: A Time trend assessment of exposure to trauma stress and clinical indicators in 1465 patients, Chiren Therapy Centre, Limerick, Ireland, (September 2019 - September 2023).**

**Objectives:**

To establish a standardized assessment methodology for evaluating trauma and stress in 1465 patients. To identify variations in symptom intensity and indicators over time since the occurrence of these events.

**Background:**

Examining the complex clinical manifestations of exposure to trauma-stress over time requires a standardized methodology. To address this need, we developed two novel indicators: 'Patient Energy Scale' (PE) and 'Stress Anxiety Spectrum' (SAS). The motivation behind the first indicator was to quantify a common complaint from patients regarding the lack of energy, tiredness, or fatigue. The second indicator aims to quantify the spectrum of symptoms commonly exhibited by patients. This study addresses the critical need for a standardized approach to assess trauma and stress impact over time. Our null hypothesis, suggesting no discernible variance in symptom intensity and indicators based on the elapsed time since the trauma or stress incident.

**Methods:**

We used data from the Chiren Therapy Centre, Limerick, Ireland, from September 2019 to September 2023. Initial assessments captured patients' chief complaints, subsequently classified, and recorded according to the International Classification of Diseases version 11 (ICD-11). For this study the top nine most prevalent ICD 11 code were selected. Additionally, patients were asked, "do you recall any physical or emotional trauma or stressful situations before or during the onset of symptoms?". If affirmative, they were prompted to provide an estimated date, categorized into four recall traumas (No recall,  $\leq 10$  years,  $>10$  to 20 years,  $>20$  years). A comprehensive list of 40 symptoms associated with anxiety and stress was compiled. Each symptom's intensity was gauged on a scale of 0 to 10, contributing to the calculation of the Stress-Anxiety Spectrum (SAS). Patients also self-reported their experiences using the Hospital Anxiety and Depression Scale (HADS) and the Patient Energy Scale (PE) scaled 0- 100. Statistical analyses, including descriptive and multivariate techniques, were performed using Oracle Analytics and the Kruskal–Wallis test in SPSS version 28.

**Findings:**

Our analysis involved 1465 patients diagnosed with the nine most prevalent ICD-11 codes (Table 1). Remarkably, individuals who reported no recollection of trauma or stress consistently exhibited better scores across all indicators (Table 2). This pattern was particularly pronounced in the analysis of SAS and PE across different recall categories (Figure 1). The intensity of symptoms chart, highlighted that tiredness, stress, and racing thoughts were the most pronounced symptoms (Figure 2). Additionally, the Independent-Samples Kruskal-Wallis Test unveiled significant differences ( $p < 0.000$ ) across recall periods for SAS, PE, HADS (Depression, Anxiety), and all specific symptoms, except for irritable bowel syndrome (Table 3).

**Interpretation:**

These findings suggest a correlation between the duration since recalled traumas or stressors and worsening symptom intensity, as evidenced by higher SAS, HADS, and specific symptom assessments. Conversely, PE scores decrease with time since reported trauma or stress. This confirms our clinical observation of an invert correlation between SAS and PE, which increase over time exposure to trauma stress. However, caution is necessary in interpretation, and further validation and replication in diverse clinical settings are vital.

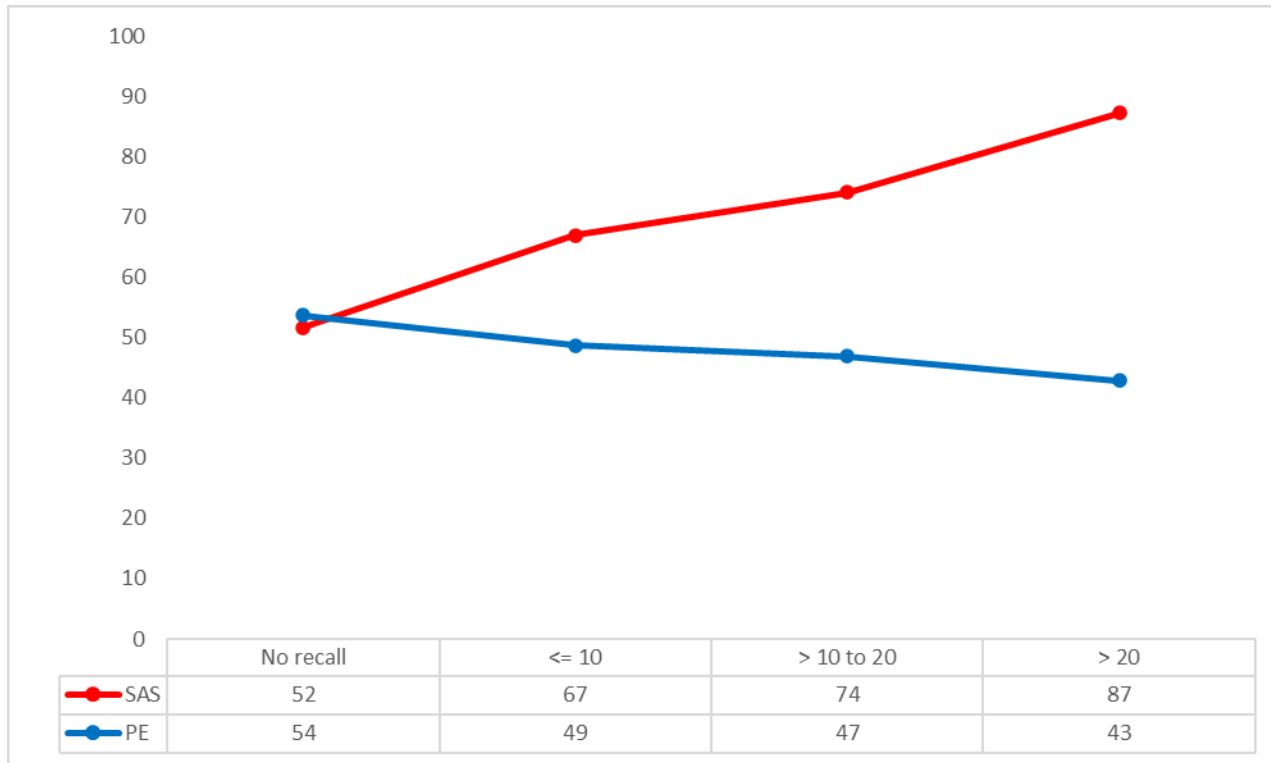


## References

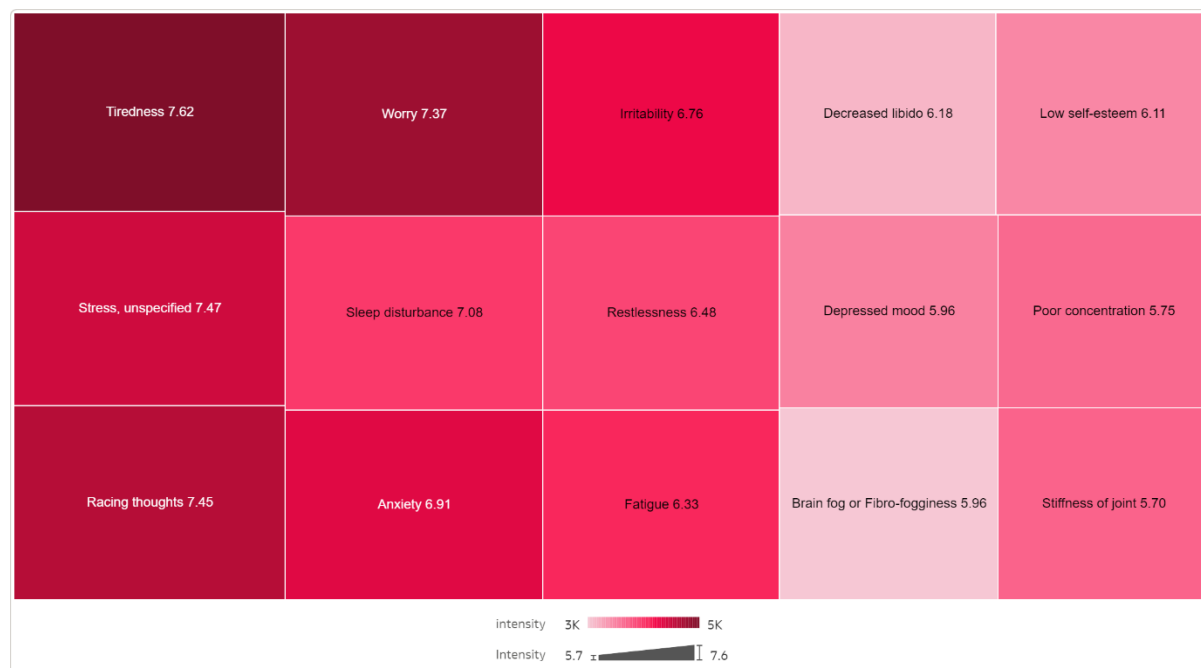
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**Figure 1: Distribution of average of Stress anxiety spectrum (SAS), and perceived energy (PE) by Recall traumas categories. 1465 patients attending, Chiren Therapy Centre, Limerick, Ireland, September 2019 – September 2023.**



**Figure 2: Distribution of Intensity for top 15 Stress Anxiety Symptoms at Visits 1: Analysis of 1465 Patients at Chiren Therapy Centre, Limerick, Ireland (September 2019 – September 2023).**



**Table 1: Distribution 1465 patients, according to International Classification of Diseases version 11 (ICD 11 code), at Chiren Therapy Centre, Limerick, Ireland, September 2019 – September 2023.**

ICD 11 Code	Total
MG30-Chronic pain	448
ME84-Spinal pain	290
ME86-Symptom or complaint of a body part	213
6B00-Generalised anxiety disorder	193
QE01-Stress, not elsew here classified	119
ME82-Pain in joint, hip joint	57
RA02-Post COVID-19 condition	55
6A73-Mixed depressive and anxiety disorder	52
6B40-Post traumatic stress disorder	38
Grand Total	1,465

**Table 2: Distribution of Stress Anxiety Spectrum (SAS), Perceived Energy (PE), Hospital Anxiety Depression Scale (HADS) averages by Recall traumas categories at Chiren Therapy Centre, Limerick, Ireland, September 2019 – September 2023.**

Recall trauma categories	Patients	SAS	PE	HADS	
				Anxiety	Depression
No recall	610	52.00	54.01	8.85	6.55
<= 10	460	68.76	48.08	11.06	8.17
> 10 to 20	177	77.18	45.95	11.51	8.76
> 20	218	88.06	42.06	11.78	9.22

**Table 3: Report of Null Hypothesis: Distribution of indicators and symptoms is the same across categories of recall trauma bin. Statistical Test: Independent-Samples Kruskal-Wallis. Chiren Therapy Centre, Limerick, Ireland, September 2019 – September 2023.**

<b>Hypothesis Test Summary</b>				
		<b>Null Hypothesis</b>	<b>Sig.<sup>a,b</sup></b>	<b>Decision</b>
		<b>Indicators</b>		
1		Energy	0.000	Reject the null hypothesis.
2		HADS Anxiety	0.000	Reject the null hypothesis.
3		HADS Depression	0.000	Reject the null hypothesis.
4		SAS	0.000	Reject the null hypothesis.
		<b>Symptoms</b>		
1	MB24.3	Anxiety	0.000	Reject the null hypothesis.
2	MB20.2	Brain fog or Fibro fogginess	0.000	Reject the null hypothesis.
3	ME05.0	Constipation	0.000	Reject the null hypothesis.
4	MB22.1	Decreased libido	0.000	Reject the null hypothesis.
5	MB24.5	Depressed mood	0.000	Reject the null hypothesis.
6	MB48.Z	Dizziness	0.000	Reject the null hypothesis.
7	9A10.Z	Dry eyes	0.001	Reject the null hypothesis.
8	DA02.1	Dry mouth	0.000	Reject the null hypothesis.
9	MD36.Y	Dry throat	0.000	Reject the null hypothesis.
10	EE00.Z	Excessive sweating	0.002	Reject the null hypothesis.
11	MG22	Fatigue	0.000	Reject the null hypothesis.
12	MB24.A	Fear	0.003	Reject the null hypothesis.
13	MG25	Feeling ill	0.000	Reject the null hypothesis.
14	MB26.7	Feeling unfairly treated by others	0.001	Reject the null hypothesis.
15	8A8Z	Headache disorders	0.000	Reject the null hypothesis.
16	7A0Z	Insomnia disorders	0.000	Reject the null hypothesis.
17	MB24.C	Irritability	0.000	Reject the null hypothesis.
18	MF50.2Y	Irritable bladder and or bedwetting	0.000	Reject the null hypothesis.
19	DD91.0Z	Irritable bowel syndrome	0.144	Retain the null hypothesis.
20	MB28.9	Low self esteem	0.000	Reject the null hypothesis.
21	MD11.9	Nasal congestion	0.000	Reject the null hypothesis.
22	MB40.1	Pain during light touch on the skin	0.000	Reject the null hypothesis.
23	MG30.1	Pain head to toes	0.000	Reject the null hypothesis.
24	MC81.2	Palpitations	0.000	Reject the null hypothesis.
25	MB23.H	Panic attack	0.000	Reject the null hypothesis.
26	MC40	Plugged feeling of the ear	0.002	Reject the null hypothesis.

27	MB21.A	Poor concentration	0.011	Reject the null hypothesis.
28	QD83.1	Prolonged grief	0.002	Reject the null hypothesis.
29	6B42	Racing thoughts	0.000	Reject the null hypothesis.
30	MB21.B	Restlessness	0.000	Reject the null hypothesis.
31	MB24.F	Self-harming ideas	0.001	Reject the null hypothesis.
32	MD11.5	Shortness of breath	0.043	Reject the null hypothesis.
33	MG41	Sleep disturbances	0.000	Reject the null hypothesis.
34	ME85	Stiffness of joint	0.000	Reject the null hypothesis.
35	DD90.3	Stomach upset indigestion heartburn	0.002	Reject the null hypothesis.
36	6B4Z	Stress unspecified	0.000	Reject the null hypothesis.
37	ME86.3	Symptom or complaint of the chest	0.000	Reject the null hypothesis.
38	MB22.7	Tiredness	0.000	Reject the null hypothesis.
39	8A04.Z	Tremors	0.000	Reject the null hypothesis.
40	MB24.H	Worry	0.000	Reject the null hypothesis.