POINT OF VIEW

Mental disorders in ICU survivors: A critical thinking approach

Trastornos mentales en supervivientes de la UCI: un enfoque crítico

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Since the post-intensive care syndrome (PICS) was first described, multiple publications have addressed it, either in its entirety or partially. However, the purpose of this approach is not to comprehensively examine PICS, but to draw attention on the epidemiology of mental disorders. Although this aspect has been extensively addressed by the international scientific medical literature, uncertainties abound that can only be resolved through more rigorous analysis.

Three meta-analyses were published to assess the prevalence of symptoms of anxiety,[1] depression,[2] and post-traumatic stress disorder (PTSD)[3] in survivors of critical illness from 2015 through 2016. The conclusions were that 32%–40%, 30%, and 22% of the patients, respectively, showed symptoms of anxiety,[1] depression,[2] or PTSD,[3] at the 1-year follow-up. All of them exhibited an exaggerated heterogene-ity among the results of the studies included. In most of these, data were obtained using surveys for symptom detection without in-person evaluations, a limitation that was noted in all 3 meta-analyses.

Both this and other methodological limitations (small sample sizes, lack of background knowledge, heterogene-ity of the patients included, etc.) have persisted up to this day, and the results continue to be characterized by their variability. Although many emphasize the high preva-lence of symptoms, the limitations affecting the results are also recognized. Among these, the exclusive assessment of symptoms using scales (telephone or mail-based in some cases) without specialized in-person evaluations is repeat-edly acknowledged, an approach that lacks the necessary methodological robustness for the accurate identification of mental disorders (Table 1).[4–13]

In former studies whose objective was to determine their prevalence after the ICU admission by specialized personnel (although with different methodologies), more homoge-neous results have been reported, ranging from 12%[9] to 17%[8]

Table 1 Studies that have assessed the prevalence of symptoms, or psychiatric disorders after critical illness.

Author/country	n	Year	Design	Anxiety	Depression	PTSD	Months after discharge	Evaluation/Limitations*
Jackson[4]/United States	821	2014	Cohort, prospective, multicenter		37% and 33%	7%	3 and 12	*In-person. Scales: BDI-II, PCL-S*
								Direct observation of the patients' behaviors was not feasible, so they relied on self-report measures.
Rabbie[2]/United States	38 trials (n = 4113)	2014	Meta-analysis		30% (Range of the studies included: 4% to 64%)		12	*Assessment in-person, by mail, or via phone in 39%, 32%, and 26% of the trials, respectively.*
								Except for 2 trials, depressive symptoms were assessed using questionnaires (HADS-D, CES-D, and BDI-II), most of which have not been rigorously evaluated for their psychometric performance in ICU survivors. Ideally, trials would use a semi-structured diagnostic interview administered by a physician.
Parker[3]/United States	40 trials (n = 4620)	2015	Meta-analysis			22% (Range of the studies included: 4% to 62%	12	*Except for 1 study, PTSD symptoms were assessed using questionnaires.*
								Ideally, trials would use a semi-structured clinical diagnostic interview.
Nikayin[1]/United States	27 trials (n = 2880)	2016	Meta-analysis	32% to 40% (Range of the studies included: 5% to 73%)			12	*All trials used questionnaires to assess anxiety symptoms. While questionnaires provide quantitative data that can be analyzed, no psychiatric diagnosis can be made from these patient assessments. HADS-A is a tool to measure general anxiety symptoms and was not designed to detect specific psychiatric diagnoses.*
Huang[5]/United States	645 (6 m)	2016	Cohort, prospective, multicenter	42%	36%	24%	6—12 (identical prevalence)	*By phone (98%)*
	606 (12 m)							*Scales: HADS-A, HADS-D, IES-R*

Table 1 (*Continued*)

Author/country	n	Year	Design	Anxiety	Depression	PTSD	Months after discharge	Evaluation/Limitations*
Bienvenu[6]/United States	186	2018	Cohort, prospective, multicenter	38%	32%	23%	33–39	*Use of self-reported measures of psychiatric symptoms without determining clinical psychiatric diagnoses* *Scales: HADS-A, HADS-D, IES-R*
Hatch[7]/United Kingdom	4943	2018	Cohort, multicenter	45.7%	41%	22%	3	*Anxiety, depression, and PTSD symptoms were assessed using validated questionnaires recommended instead of clinical diagnostic interviews* *By mail*
Sivanathan[8]/Canada	121 101	2019	Cohort, retrospective, 2005–2015					*Scales: HADS-A, HADS-D, PCL-C* *A postal survey can only be used to calculate the prevalence of cases rather than THE actual rates of clinical diagnoses. Therefore, the validity of these findings depends on the psychometric properties of the instruments used.* *Diagnoses were achieved by primary care physicians, or psychiatrists*
Añón[9]/Spain	72	2020	Cohort, retrospective				3	*Patients with conditions known to increase the risk of subsequent mental illnesses, or those with pre-existing mental illnesses were excluded. It is possible that the actual rates of diagnosis have been underestimated, as the methodology would not capture patients who did not seek medical attention.* *In-person (symptoms: in-person at the IOC. Scales: HADS-A, HADS-D, SS-PTSD) (psychiatric diagnosis: in-person evaluation by psychiatry)*

Author/country	n	Year	Design	Anxiety	Depression	PTSD	Months after discharge	Evaluation/Limitations*
Unoki[10]/Japan	754	2021	Cohort, retrospective	17%	28%	6%	12	*Letter format. No limitations were exposed.* *By mail*
								Scales: HADS-A, HADS-D, IES-R *The psychiatric history, significantly associated with post-ICU mental health, was obtained from the health records; therefore, the patients' problems may have been underestimated. Also, there were missing data that could be associated with mental health.*
COMEBAC trial[11]/France	177 COVID-19	2021	Cohort, prospective	23.4%	18.1%	7.4%	4	*In-person* *Scales: HADS-A, BDI, PCL-5* *Many patients invited to participate refused both telephone and outpatient assessments.* *It could be that the patients who refused to participate had fewer symptoms than those who did*
Heesakkeers[12]/The Netherlands	246 COVID-19	2022	Cohort, prospective	17.9%	18.3%	9.8%	12	*Online or paper questionnaires (Scales: HADS-A, HADS-D, IES-6)* *Patient-reported outcome measures, which cannot be used as diagnostic tools.*
Nanwani[13]/Spain	186 COVID-19	2022	Cohort, prospective					*In-person (symptoms: in-person at the IOC. Scales: HADS-A, HADS-D, SS-PTSD) (psychiatric diagnosis: in-person evaluation by the psychiatry team)* *Patients with psychiatric impairment, cognitive impairment, and severe neuromuscular or neurological diseases were excluded from the assessment.*

BDI-II, Beck Depression Inventory; CES-D, Center for Epidemiological Studies Depression scale; HADS, Hospital Anxiety and Depression Scale; IES-6, Impact of event scale-6; IES-R, Impact of event scale revised; IOC, intensive outpatient clinic; PCL-5, Post-traumatic Stress Syndrome Checklist for Diagnostic and Statistical Manual of Mental Disorders, 5th Edition; PCL-C, Post Traumatic Stress Disorder Check List – Civilian version; PCLS, Post-Traumatic Stress Checklist – Specific Version; PTSD, post-traumatic stress disorder; SS-PTSD, Severity Scale of Post-Traumatic Stress Disorder.

* Some of the limitations acknowledged by the authors of each study are stated.

for psychiatric diagnoses. In a recent study[13] conducted in 3 national centers, we evaluated a total of 186 COVID-19 survivors who had been mechanically ventilated and concluded that 31% presented psychiatric disorders 3 months after hospital discharge. Although the assessments were conducted in person, these data were obtained from the scales used in the Intensive Care Medicine clinic (which means that we were not unaware of the previously mentioned limitations). The follow-up of patients referred to the Psychiatry team (unpublished data) revealed that only 15% of them were diagnosed with a mental disorder.

Assessment scales are used to measure and quantify symptoms, behaviors, or mental traits. They are transformed into numerical values that indicate the severity of specific symptoms, but they do not constitute a definitive diagnosis. Although it has been argued that some of them are suitable detection tools due to their sensitivity and specificity, both can vary depending on various factors such as the thresholds used to define the presence of symptoms, study population, context, etc. and should not replace specialized in-person evaluation.

It is unquestionable that mental disorders often follow a critical illness, either as new diagnoses or exacerbations of pre-existing psychiatric conditions (an aspect that has not been rigorously addressed in the scientific medical literature to date). However, the extensive bibliography that has based its conclusions on the results of surveys for symptom detection without in-person validation can lead to psychiatric overdiagnosis, resulting in alarming speculation not only in the scientific community but also in society, often fueled by sensational headlines in the general press. Future epidemiological studies must be founded on the necessary methodological rigor to obtain reliable results and avoid overestimated data that can trigger confusion, promote misinterpretations, and feed speculation.

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Conflicts of interest

None declared.

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