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Letter to the editor

Effectiveness of psychiatric support for PTSD among a cohort of relatives of patients hospitalized in an intensive care unit during the French COVID-19 lockdown—The OLAF (Opération Liaison et Aide aux Familles): A quasi-randomized clinical trial

SARS-CoV-2 can lead to hospitalization in intensive care units (ICUs). Having a family member admitted to an ICU can cause severe psychological stress, including anxiety, depression, or post-traumatic stress disorder (PSTD) [1,2]. These multiple disorders define the post-intensive care syndrome family (PICS-F) [3]. Recommendations exist to prevent PICS-F, grouped into a family-centered approach [4]. Nevertheless, the pandemic led to major restrictions and, in France, a strict lockdown in March 2020, including the prohibition of visits to the ICU. This raised concerns about an increase in the risk of PTSD among the relatives of ICU patients. To prevent this increase, the psychiatric and other ICU teams of Toulouse University Hospital created a temporary service known as OLAF (in French, *Opération de Liaison et d'Aide aux Familles*), as described in Raymond et al. (2021) [5].

We studied the impact of OLAF by conducting a prospective interventional study that compared 6-month PTSD symptoms in two groups of relatives according to whether or not they were followed by OLAF intervention (the control group consisted of relatives of patients admitted after the lockdown but before the implementation of OLAF) (ClinicalTrials.gov Identifier: NCT04470869). The primary outcome was the mean PCL-5 score. Missing data were handled by mean imputation methods. A probable PTSD diagnosis was defined as a score ≥ 32 on the French version of the PCL-5 scale [6]. We used the Peritraumatic Distress Inventory (PDI) [7] to study peritraumatic distress and the Peritraumatic Dissociative Experiences Questionnaire (PDEQ) to identify peritraumatic dissociative experiences [8]. Depression and anxiety symptoms were assessed at 3, 6, and 12 months using the Hospital Anxiety and Depression Scale (HADS) [9], severity ICU scores (Simplified Acute Physiology Score (SAPS II), and Sequential Organ Failure Assessment (SOFA)). The study was approved by our ethics board (*CPP 2020–54*).

All relatives nominated as ICU patient's representative(s) during their hospitalization in the first lockdown period in France were screened if they were older than 18. The study sample was calculated with an objective of 65 participants per group.

One hundred and twenty-nine participants were included, which corresponded to 56% of the participants eligible for the study (27% did not answer and 16% refused to participate). At 6 months, 105 (81%) were still in the study. Table 1 shows the complete report of participant characteristics. Twelve participants (11.5%) presented with probable PTSD at six months. The mean PCL-5 score was 16 (±14): 17 (±15) in the OLAF group, and 16 (±13) in the control group ($p = 0.6$). In a linear regression model, we found that the factors associated with PTSD at 6 months were the HADS score (coefficient = 0.6±0.17; $p < 0.001$), having a psychiatric history (coefficient = 7.9±2.9, $p < 0.001$), the covariable of interaction between OLAF intervention and HADS score (coefficient = 0.76±0.2, $p < 0.001$), and the covariable of interaction between OLAF intervention and having a psychiatric history (coefficient = −8.7±4.0, $p < 0.03$). This model explained 57% of the variance in the PTSD score (F-statistic = 27.92, p-value <2e-16).

Table 1
Population characteristics per group (OLAF or control). PDI: Peritraumatic Distress Inventory; HADS: Hospital Anxiety and Depression Scale; OLAF: OLAF intervention (yes or no); PCL5: PTSD checklist for DSM-5; PDEQ: Peritraumatic Dissociative Experiences Questionnaire; IGF2: score of symptoms severity in ICU; SOFA: Sequential Organ Failure Assessment.

	Characteristic n (%) or mean (± SD)	OLAF (n = 54)	Control (n = 51)	p-value
Participant	Gender (men)	9 (17)	19 (37)	0.05
	Age (years)	52 (±15.6)	55 (±15.2)	0.4
	Relationship			
	Husband/Wife	24 (44)	18 (36)	
	Brother/Sister	7 (13)	5 (10)	
	Parent	6 (11)	2 (4)	0.3
	Child	17 (31)	18 (36)	
	Friends or others	2 (4)	6 (12)	
	Level of education			
	Elementary school	9 (17)	10 (19)	
	High school	20 (37)	18 (36)	0.9
	University	25 (46)	23 (45)	
	Professional Status			
	Employee	36 (66)	24 (47)	
	Retired	15 (28)	23 (45)	0.1
	Unemployed	3 (6)	4 (8)	
	Psychiatric past history	15 (28)	17 (33)	0.5
	Past history of psychotropic treatment	15 (28)	23 (45)	0.06
	Increase in tobacco/ alcohol/drug consumption (yes)	10 (18)	10 (20)	0.8
	HADS score at screening	9.2 (± 8.6)	10.6 (± 8.8)	0.3
	PDEQ score at screening	23.3 (± 9.1)	18.1 (± 8.6)	0.2
	PDI score at screening	30.5 (± 8.8)	25.3 (± 8.5)	**0.002**
ICU hospitalized relative	Gender (men)	44 (81)	34 (66)	0.13
	Age (years)	63 (±10.1)	68 (±16.4)	0.09
	SAPS-II at admission	40 (±11)	42 (±16)	0.4
	SOFA at admission	6.6 (±2.2)	6.6 (±3.6)	0.9
	Death (yes)	12 (22)	17 (33)	0.4

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For discussion, we suggested that our study presented a lack of statistical power due to a lower prevalence of PTSD than expected compared with the prevalence found in a prospective cohort during COVID-19 [10]. This was probably explained by the difference in diagnosis scales employed; indeed, the other study applied the Impact of Events Scale-Revised (IES-R), while we utilized PCL-5. IES-R is not completely aligned with the new criteria of DSM-V; it is now recommended to use PCL-5 [6]. However, no study was previously available using this PICS-F score in this population. Moreover, despite the 81% retention rate, we cannot exclude that the participants who lost presented more distress than the others.

Despite no direct association with PTSD, we identified indirect associations with variables that influence PTSD scores. For participants with a history of psychiatric disorders, the OLAF intervention permitted a decrease in the PCL5 score compared with the control. In addition, HADS scores were more predictive for PTSD in the OLAF intervention, suggesting that participants in the OLAF group for whom anxiety and depression persisted for at least 3 months were more likely to have probable PTSD than participants in the control group. Moreover, PDI scores were significantly higher in the OLAF group, suggesting that this group was more vulnerable to PTSD. The PDI difference may be due to bias in our recruitment process during OLAF screening. Indeed, during the implementation of the service, we first contacted the relative identified in a patient's medical file (a maximum of two people). These individuals may have asked for help for another member of the family who they identified as being fragile, while contact in the control group was only made with the relative named in the medical file. We hypothesized that OLAF permitted the screening of more vulnerable relatives and provided those with psychiatric histories with adequate support. Moreover, the fact that relatives who benefited from OLAF intervention but still presented with anxiety and depression were more likely to develop PTSD should indicate that those relatives should be in a high-risk subgroup.

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