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Diagnostic mistakes in Post-Traumatic Stress Disorder: The problem of symptom overlap with Depression

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Summary

Objectives. The overlap between symptoms of PTSD and MDD is substantial. PTSD symptoms arise after a traumatic experience and the trauma is present in all of the diagnostic clusters. In individuals who have experienced a trauma a long time before, it is difficult to establish the exact moment of onset of their symptoms in relation to the trauma suffered. We proposed to raise awareness among operators who may encounter this problem, with the aim of providing them with valuable help in order to achieve a correct differential diagnosis.

Methods. A sample of subjects suffering from PTSD without comorbidity was assessed to confirm the diagnosis and the severity of post-traumatic symptoms. The Kruskal-Wallis test was used to compare any modifications in the parameters analyzed through the Davidson Trauma Scale with the presence and severity of depressive symptoms as evaluated by the Hamilton-D scale.

Results. Half of the PTSD patients recruited showed values of HAM-D > 18, although an active Major Depressive Episode was clinically excluded. Symptom of „numbing”, despite being different from the apathy experienced in depression, is identified as a depressive symptom by the HAM-D.

Conclusions. Giving prevalence to depressive symptoms may be misleading for diagnosis and may ultimately result in inappropriate treatment.

Key words: Clinician-Administered PTSD Scale, Hamilton Rating Scale for Depression, numbing

Introduction

Post-Traumatic Stress Disorder is an often chronic and highly disabling anxiety disorder, which can occur in people who have been exposed to traumatic events: either firsthand, or by witnessing events experienced by others.

Epidemiology

PTSD has been found in all cultures and at all socio-economic levels. Though it can appear at any age, it has a higher prevalence in young adults, due to the greater

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frequency of possible triggering events. A large body of literature documents the frequency of PTSD in victims of various types of traumatic experience. A review of the case studies currently available reveals that the prevalence of the disorder varies between 1% and 9% in the general population and may reach 50-70% in sub-groups of patients exposed to traumas of particular gravity [1-5], such as war, deportation, torture, assault or rape. The characteristics of traumatic events are closely related to the development of post-traumatic reactions: specifically, there seems to be a „dose-dependent” response, i.e. an increase in the severity of the trauma increases the chance of developing post-traumatic symptoms [6-9]. A relationship between the severity of the trauma and the development of chronic PTSD has also been documented [10-11].

The lifetime prevalence of PTSD is 3.6% among men and 9.6% among women [12]. The scientific literature shows that women are more predisposed to developing PTSD following exposure to trauma [13]. Other categories at risk are children and adolescents: 90% of child victims of sexual harassment, 77% of those exposed to a violent attack at school and 35% of those exposed to urban violence develop PTSD [14]. An epidemiological investigation to establish the true prevalence of the disorder in Italy has not yet been conducted, probably because PTSD is often not recognized as a mental disorder by either family doctors or the patients themselves, and is sometimes not even diagnosed by psychiatrists [2].

Some surveys have estimated the prevalence of PTSD to be even higher than that of depression and other anxiety disorders. Moreover, the epidemiological data on Post-Traumatic Stress Disorder significantly vary between the different areas of the world. This may be due to a greater number of traumatic events in certain Countries, but also and more likely to the lack of attention on their psychiatric consequences, leading to a failure to diagnose PTSD. The epidemiological data, along with the severity of symptoms and the chronic nature of the disorder, suggest the need for in-depth knowledge in order to avoid very frequent diagnostic errors, as well as non-specific and ineffective treatment [2].

Diagnostic error

The diagnosis of PTSD is frequently not taken into account by clinicians, who define patients' suffering as „depression”, stopping at the mere evaluation of a few symptoms (in particular numbing) without regard for the patients' full clinical picture, which is, in fact, highly specific. We analysed the scientific literature available on PubMed concerning the problem of symptom overlap between PTSD and depression.

Many studies on the effects of exposure to traumatic events have found high levels of comorbidity between PTSD and Major Depressive Disorder [13, 15-19]. Indeed, the overlap between the symptoms of the two disorders is substantial. The clinical features of both include sleep disturbances, decreased concentration, avoidance and social withdrawal, loss of interest and pleasure in activities from which the subject drew satisfaction before the trauma, as well as a sense of isolation and detachment from others. A key to distinguishing the two disorders may be the fact that, in most cases, PTSD symptoms become evident immediately after a traumatic experience and

the trauma is present in all of the diagnostic clusters (while in depression it only acts as a trigger for disease onset), although in individuals who have experienced trauma in childhood or multiple traumas, it is difficult to establish the exact moment of onset of their symptoms in relation to the trauma experienced [20].

With its inclusion in DSM-III [21], PTSD gained nosographic dignity in the form of a coherent profile of signs and symptoms, related to the traumatic event experienced; this distinct identity was also validated by many epidemiological studies. Beyond the presence of the trauma, the heterogeneity of the clinical presentation of PTSD is conditioned by the polythetic nature of its diagnostic criteria. It is evident how such a multitude of symptoms can be found to overlap with the diagnostic criteria of other psychiatric disorders, in particular of Major Depressive Disorder: these similarities hinder the recognition of various psychopathological principles, allowing the formulation of multiple diagnoses despite the presence of a trauma in the patient's history followed by the appearance of precise symptoms [22].

The relationship between PTSD and depression is particularly complex because of the many symptoms that overlap, rendering differential diagnosis very challenging. From an analysis of the literature, it appears that the problem of symptom overlap between PTSD and depression does not currently receive the attention it merits. The research largely focuses on the widespread phenomenon of comorbidity between the two disorders, while only a few studies have assessed the risk that symptom overlap may lead to diagnostic and therapeutic error. Key symptoms of depression include depressed mood and a loss of interest or pleasure. Patients may say they feel in a bad mood, helpless, or useless; depressed patients sometimes seem unaware of their depression and do not complain of an altered mood, even if they have become detached from family, friends and activities that previously interested them. Depression frequently involves sleep disturbances, particularly terminal insomnia (waking up early with an inability to get back to sleep), insomnia (waking up during the night and not being able to get back to sleep) and in some cases initial insomnia. In a study on the effects of traumatic experiences in a sample of young adults, Kessler et al. [13] found that many symptoms that meet DSM criteria C and D for PTSD overlap with symptoms of depression. Lastly, most of the studies on the subject show that the disorder most commonly associated with PTSD is Major Depressive Disorder. Four different hypotheses have been formulated to explain the high level of comorbidity between PTSD and MDD [18-20, 23-25]:

- a. pre-existing psychiatric disorders may enhance vulnerability/render individuals vulnerable to PTSD;
- b. other mental disorders, including depression, can represent complications in PTSD;
- c. concomitant disturbances may be due to shared risk factors (e.g. trauma);
- d. comorbidity is the result of artefact measurements, in other words symptoms of PTSD artificially increase the possibility of other diagnoses, including that of MDD.

Yehuda et al. wondered whether comorbidity with PTSD is actually the result of an overlap of symptoms between diagnoses, not necessarily constituting two distinct

diagnoses [6]. The question of possible symptom overlap between PTSD and depression was also dealt with in a subsequent study on the victims of road accidents [26], but the authors' idea of raising the diagnostic threshold for depression - in terms of the number of symptoms - among individuals with PTSD, in order to bypass the risk of symptom overlap, was met with little support.

The data in the literature seem to indicate that patients with a diagnosis of PTSD alone less frequently require intervention, compared to subjects who also suffer from other disorders, particularly depression [13, 15, 27]. It is generally suggested that, as long as individuals are able to give meaning to their traumatic event, they experience the symptoms of PTSD as a normal reaction which does not require professional intervention. When they consider their PTSD as a dysfunctional disorder, they react with secondary depression, which intensifies their level of suffering and prompts them to seek professional help [27-28].

The term „numbing” defines a clinical condition characterized by emotional and affective paralysis, i.e. an inability to feel emotions, involvement, or interest in stimuli, people or activities [29]. Among the fundamental dimensions of PTSD, numbing is the least studied, due to difficulties in its classification and definition: emotional flattening may be interpreted as an inability to either feel emotions or express them, or both. Patients with PTSD experience a state of emotional numbing that cancels out subjective fear and horror, as well as joy and excited anticipation, and is not remotely comparable to the apathy encountered in MDD: considering the unique and nuclear feature of PTSD in its many manifestations, the clinical presence of avoiding behaviour, a state of hyperarousal, neurovegetative symptoms, a raised pain threshold, as well as a traumatic event in the patient's history, would make differential diagnosis possible.

The purpose of our study is to focus on the possible symptom overlap between Post-Traumatic Stress Disorder without psychiatric comorbidity and depressive symptomatology, which could lead to diagnostic errors.

We therefore set out to assess the isolated depressive symptoms of patients suffering from PTSD, in the absence of comorbidity with other psychiatric disorders.

Materials and Methods

We selected a sample of subjects suffering from PTSD with no psychiatry comorbidity, which was excluded by the administration of the Mini International Neuropsychiatric Interview (MINI). After a clinical interview aimed at an overall analysis of the patients' state of health and the collection of anamnestic data/their medical history, the following psychometric tests were administered: the Hamilton Rating Scale for Depression 'HAM-D' [30] for assessment by the clinician of any depressive symptoms, the Clinician-Administered PTSD Scale 'CAPS' [31] to confirm the diagnosis of PTSD, and the Davidson Trauma Scale 'DTS' [32] to assess the frequency and severity of post-traumatic symptoms.

The data obtained were collected in an electronic database and processed using the GraphPad Prism 5 software. In particular, the Kruskal-Wallis test (one-way ANOVA) was used to compare any modifications in the parameters analyzed through the DTS

(total and subscales) with the presence and severity of depressive symptoms as evaluated by the HAM-D scale.

The study program received approval from the Local Ethics Committee and consent was obtained from all patients. Between March 2008 and February 2010 we recruited all patients suffering from Post-Traumatic Stress Disorder among those referred to the Department of Psychiatry in Siena and to the National Observatory for Victims of Terrorism. For each patient, once his/her informed consent had been obtained, personal information (age, sex, qualifications, occupation), clinical data (any current treatments, previous or current organic disorders) and drug history were collected and various self-report and clinician-administered psychometric tests were performed.

Results

We recruited 73 Italian patients suffering from PTSD referred to our Clinic: the psychiatric comorbidity was assessed by MINI. Of these, 26 were excluded because of comorbidity with major depression ($n=19$) and/or panic disorder with agoraphobia ($n=7$), while the other had no comorbidity. Only PTSD patients with no psychiatric comorbidity ($n=47$) were selected. The PTSD diagnosis was confirmed by their adherence to all the criteria of CAPS (mean severity 57.9 ± 23.3); there were 25 females and 22 males, in line with the data from the literature, which reports a prevalence of the disorder in females. The mean age was 47 ± 13 years (range 21-77 years): 46.2 ± 12.7 years in females (range 21-68 years) and 47.8 ± 14.3 years in males (range 28-77 years).

Patients underwent different traumatic events, such as natural disaster ($n=8$), sudden death of a family member ($n=12$), car accident ($n=3$), assault ($n=8$), robbery ($n=6$) and terroristic attack ($n=10$). The mean duration of PTSD was 149.9 ± 80.85 months.

The HAM-D, CAPS and DTS tests were administered to the patients suffering from PTSD; using the Kruskal-Wallis test (one-way ANOVA) modifications in the parameters analyzed by the DTS (total and subscales) were compared, considering the presence and severity of depressive symptoms as evaluated by the HAM-D scale.

The total score on the DTS scale was 5.6 ± 8.4 in patients who showed values of $\text{HAM-D} < 7$; 18 ± 14 in subjects with mild depression; 19.1 ± 13.3 in the case of apparent moderate depression ($\text{HAM-D} 18-24$), and 26.0 ± 12.7 in patients whose HAM-D values were higher than 25. This case was also statistically significant, with a value of $p = 0.0035$ (Figure 1 – next page).

The DTS was divided into symptom clusters: the „intrusion” cluster showed no statistically significant modifications compared to the values of the HAM-D, while the „hypervigilance” cluster increased its score as the HAM-D increased. At values of $\text{HAM-D} < 7$, the hypervigilance cluster score was 9.2 ± 5.7 ; in the case of mild depression it was 21.4 ± 10.6 ; in patients with HAM-D between 18 and 24 it was 23.5 ± 8.3 and, lastly, in subjects with $\text{HAM-D} > 25$ the hypervigilance score was 26 ± 3 . The value of $p = 0.024$ again showed substantial statistical significance (Figure 2 – next page).

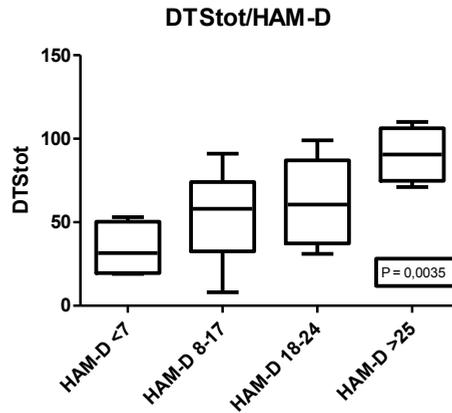


Figure 1. Modifications in DTS total scores compared to HAM-D scores; $p = 0.0035$. Values are means and standard deviations

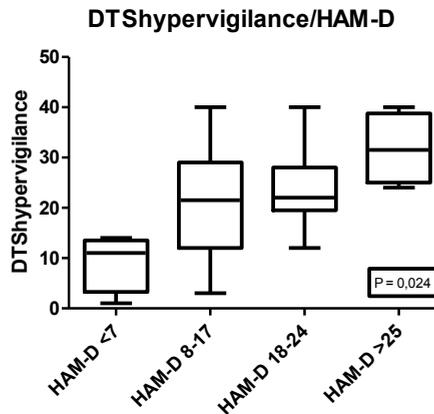


Figure 2. Modifications in DTS hypervigilance scores compared to HAM-D scores; $p = 0.024$. Values are means and standard deviations

On the whole, the „avoidance/numbing” DTS cluster was significantly correlated with the HAM-D ($p < 0.05$). This group was subsequently split into its two sub-clusters, in order to analyze their correlation with the HAM-D. Avoidance was found not to be significantly related to depressive symptoms, while numbing scores increased in correlation with HAM-D ones. In particular, in patients who did not present a sufficient number of symptoms for a diagnosis of depression, the numbing scores were 8.2 ± 10.5 ; as the number of depressive symptoms increased, the numbing scores increased to 10.2 ± 7.2 , in the case of apparent mild depression, to 14.2 ± 7.3 in patients with moderate depression and, finally, to 17.5 ± 3.5 in subjects whose HAM-D values were higher than 25. This analysis was highly significant from a statistical point of view, with a value of $p = 0,0013$ (Figure 3 – next page).

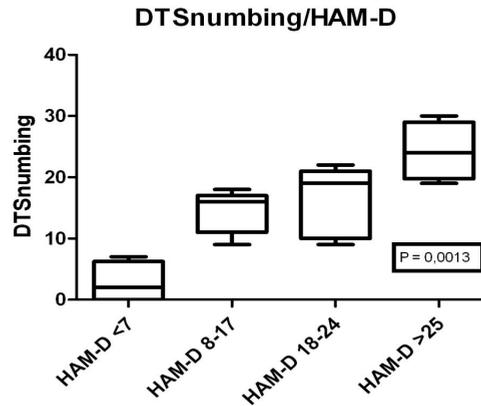


Figure 3. Modifications in DTS numbing scores compared to HAM-D scores; $p = 0.013$. Values are means and standard deviations.

We found that about half of the patients recruited with PTSD (23 subjects) presented HAM-D values > 18 (moderate to severe depression), despite the fact that both the MINI and clinical assessment excluded comorbidity with other psychiatric disorders, particularly depression.

Discussion of results

Our study shows that increasing values of HAM-D correlate with DTS scores and, by splitting the total DTS scale into clusters, a statistical significance emerged in 2 groups out of 3 (hypervigilance and avoidance/numbing). The “intrusion” cluster is specific to PTSD and does not correlate with the HAM-D. Avoidance was found to influence the problem of overlap and, in particular, when the group was split into symptom sub-clusters (pure avoidance and numbing), only numbing was found to be significantly correlated with depressive symptoms. It would seem, therefore, that the symptom of numbing, despite differing from the apathy of depression from a psychopathological viewpoint and in the quality of the symptom, is identified by the HAM-D as a symptom of depression: as if the patient had full-blown depression, even in the absence of a real/clinical diagnosis. Finally, hypervigilance was significantly correlated with the HAM-D, probably because symptoms related to anxiety are included among the items in the DTS scale.

In the literature, few studies have focused on the problem of symptom overlap between PTSD and depression [6, 19-20, 26], consequently a conclusive differential diagnosis has never been reached. Our study found that the HAM-D catches symptoms of depression and/or anxiety, but does not catch the clinical specificity of depression, thus misleading clinicians if they do not consider PTSD as a multi-faceted disorder, with a specific clinical identity and a constant nuclear feature.

Conclusions

The data gathered in our study reveal that Post-Traumatic Stress Disorder is not always recognized and that it is sometimes diagnosed as depression with comorbid

anxiety, because the unique and central feature of the disorder is not identified: i.e. the presence of several symptom clusters in the same patient. Patients suffering from PTSD often complain of sleep disorders, but rarely tell their physicians about traumatic events experienced, unless stimulated. If the presence of a trauma in the patient's history does not emerge, the clinical features of PTSD (symptoms of numbing) are often not dissimilar to those of depression; nonetheless, numbing is only one of the symptom clusters in PTSD. Hence the importance of not underestimating Axis IV, related to life events, in the assessment of a patient. Through our study we proposed, therefore, to raise awareness among operators who may encounter this problem, with the aim of effectively helping them to perform a correct differential diagnosis between PTSD and depression. Giving prevalence to depressive symptoms, in fact, especially when a traumatic event occurred in the patients' more distant past, may be misleading for diagnosis and ultimately result in inappropriate treatment for an unrecognized post-traumatic disorder.

Finally, as recent Literature suggests [18,33-37], focusing on the diagnostic assessment of PTSD would be of high significance, especially with the diagnostic revisions forthcoming in the publication of the DSM-V, in order to decrease clinical heterogeneity and comorbidity with depressive disorders, leading to considerable implications in terms of assessment and treatment practice.

Ошибки, допускаемые в диагностике стрессового посттравматического нарушения – проблема накладывания симптомов этого нарушения и депрессии

Содержание

Задание. Можно указать на многочисленные области накладывания симптомов посттравматического нарушения (ПТН) и большой депрессии (БД) ПТН появляются у лиц, которые перенесли психическую травму, а в каждой группе симптомов, объясняющих ПТН обозначающих у них связь с травмой. У пациентов, которые перенесли травму в далеком прошлом, трудно установить временную реляцию между появлением симптомов и временем травмы. Авторы представленной работы, обратили внимание на необходимость расширения знаний, относящихся к этим вопросам среди профессионалов-медиков, которые могут встречаться с описываемой проблемой, а также приведение указателей, могущих помочь в правильной дифференциальной диагностике.

Метод. В исследовании принимала участие группа пациентов с ПТБ (без сопутствующих психических нарушений). В рамках примененных процедур диагностики, проверялся этот диагноз с определением степени тяжести посттравматических симптомов. Изменения исследованных параметров при помощи шкалы травмы Давидсона, в зависимости от степени тяжести депрессивных симптомов (определяемых при помощи шкалы Депрессии Гамильтона), проанализировано с применением теста Крускала-Виллиса.

Результаты. Несмотря на исключение актуально присутствующего эпизода большой депрессии, половина пациентов с ПТИ получила >18 пунктов в шкале Гамильтона. Хотя симптом одервенения эмоционального характера отличается от депрессивного появления апатии, то в рамках диагностики с использованием шкалы Гамильтона симптом приписывается к категории депрессивных симптомов.

Выводы. Частое появление депрессивных симптомов у лиц с ШТН может приводить к диагностическим ошибкам, а что связано с применением лечения несоответствующего характера.

Ключевые слова: шкала ПТН в форме клинического анамнеза, Шкала Депрессии Гамильтона, эмоциональное одервенение

Fehler bei der Diagnosestellung der posttraumatischen Belastungsstörung – Problem mit PTBS – Symptomen und Symptomen der Depression

Zusammenfassung

Ziel der Studie. Man kann zahlreiche Bereiche zeigen, wo sich die Symptome der posttraumatischen Belastungsstörung (PTBS, engl. PTSD) und der Depression Major (eng. MDD) überlagern. Die PTBS entwickelt sich bei Personen, die einen psychischen Trauma erlebt haben, und in jeder Gruppe der Symptome, die die PTBS definieren, wird ihr Zusammenhang mit dem Trauma bewiesen. Bei den Patienten, die ein Trauma in der fernen Vergangenheit erlebt haben, ist es schwer eine Zeitbeziehung zwischen dem Auftreten der Symptome und dem Traumaerleben zu bestimmen. Die Autoren der vorliegenden Studie machten darauf aufmerksam, das für die Fachärzte notwendig ist, diesem Problem auf den Grund zu gehen. Die Fachärzte können dem beschriebenen Problem begegnen, sie können auch Hinweise zur Hilfe bei der Differentialdiagnose geben.

Methode. An der Studie nahm die Gruppe der Patienten mit der posttraumatischen Belastungsstörung (ohne komorbide psychische Störungen) teil. Im Rahmen der eingesetzten diagnostischen Verfahren wurde diese Diagnose verifiziert und die Intensität der Symptome der posttraumatischen Symptome bestimmt. Die Veränderungen der mit der Davidson Trauma Scale gemessenen Parameter abhängig von der Intensität der depressiven Symptome (bestimmt durch die Hamilton Depression Scale, HAM-D) wurden mit Hilfe des Tests von Kruskal - Wilson analysiert.

Ergebnisse. Obwohl die aktuell andauernde Episode der Depression Major ausgeschlossen wurde, erzielte die Hälfte der Patienten mit PTBS > 18 Items in der HAM-D – Skala. Das Symptom der emotionalen Taubheit (numbing) unterscheidet sich von der depressiven Empfindung der Apathie, trotzdem wird er im Rahmen der Diagnostik mit HAM-D an die depressiven Symptome angerechnet.

Schlussfolgerungen. Häufiges Auftreten der depressiven Symptome bei den Personen mit PTBS kann zu diagnostischen Fehlern beitragen, und was daraus folgt, zu Fehlern bei der Behandlung.

Schlüsselwörter: PTBS-Skala in Form des klinischen Interviews, Hamilton-Depression-Skala, emotionelle Taubheit

Les fautes diagnostiques dans le trouble de stress post-traumatique (TSPT) – le problème de la superposition des symptômes de ce trouble-ci et de ceux-là de la dépression

Résumé

Objectif. On peut indiquer plusieurs dimensions de la superposition des symptômes de TSPT et de la dépression majeure. Le TSPT se développe après le trauma psychique et on souligne toujours le lien du trauma avec les symptômes de TSPT. Chez les patients qui ont survécu le trauma au passé il est très difficile d'établir la relation du moment du trauma et de l'apparition des symptômes de TSPT. Les auteurs de cet article accentuent la nécessité d'augmenter les connaissances des spécialistes en question et de leur donner des outils pour aider le diagnostic correct.

Méthodes. On examine le groupe de patients avec TSPT (sans comorbidité) en vérifiant le diagnostic et en déterminant la sévérité des symptômes. Pour comparer les modifications des paramètres établis avec the Davidson Trauma Scale on use le teste de Kruskal-Wallis, la sévérité des symptômes est analysée avec l'échelle d'Hamilton-D (HAM-D).

Résultats. Bien que l'on exclue l'épisode actuel de la dépression majeure presque la moitié de patients obtient le score >18 dans l'échelle HAM-D. Le symptôme d'engourdissement émotionnel (« numbing ») diffère de l'apathie durant la dépression pourtant durant le diagnostic avec HAM-D on les identifie.

Conclusions. La grande fréquence des symptômes dépressifs durant le TSPT peut causer les erreurs diagnostiques et en conséquence – les erreurs thérapeutiques.

Mots clés : TSPT, HAM-D, engourdissement émotionnel (numbing)

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