ORIGINAL ARTICLE

PTSD in mental health outpatient settings: highly prevalent and under-recognized

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Objectives: To estimate the current prevalence of posttraumatic stress disorder (PTSD) and the diagnosis rate of this disorder ascertained by psychiatrists in training.
Methods: We interviewed 200 adults under treatment in a university mental health outpatient clinic. The PTSD diagnoses obtained using the Structured Clinical Interview for DSM-IV (SCID-IV) were compared with the patients' medical records.
Results: Forty-one patients (20.5%) were diagnosed with current PTSD, but only one of them (2.4%) had previously received this diagnosis. This study confirms that although PTSD is highly prevalent among mental health outpatients, it is remarkably underdiagnosed in teaching hospitals.
Conclusions: These findings suggest that psychiatrists in training may be failing to investigate traumatic events and their consequences and strongly indicate that trauma-related issues should be given more prominence in psychiatry curricula and psychiatrist training.

Keywords: Prevalence; PTSD; underdiagnosis; outpatient psychiatry

Introduction

Despite being the most severe human reaction to traumatic events[1] and highly prevalent, posttraumatic stress disorder (PTSD) is surprisingly underdiagnosed. PTSD prevalence varies widely in different settings, affecting 7.8% of the general U.S. population,[2] 2 to 39% of primary care samples[3] and 7 to 46% of mental health patients.[4-11]

Low-and-middle income countries, such those in Latin America, have extremely high rates of urban violence. Between 2000-2004, Latin America had the highest homicide rate in the world: 17.8 per 100,000 habitants.[12] In 2001, 82% of all homicides in this region occurred in only three countries: Brazil, Colombia and Mexico.[13] In 2015, homicides accounted for 28.9 of every 100,000 deaths in Brazil.[14] It has been calculated that 86% of Brazilians have been exposed to a potentially traumatic event during their lives.[15] Not surprisingly, PTSD is highly prevalent in Brazil, with a 10.2 and 8.7% lifetime prevalence and a 5.0 and 3.3% 12-month prevalence in São Paulo and Rio de Janeiro, respectively (the largest and second largest metropolitan areas, respectively).[16]

However, PTSD remains largely undiagnosed and undertreated in mental health outpatients, even in teaching hospitals, with diagnosis rates as low as 4%.[17] Despite these concerning data, no study had used a semi-structured instrument to investigate the diagnosis rate of PTSD in mental health settings outside the United States. Detecting PTSD is imperative: if not properly diagnosed and treated, this disorder can become chronic, more severe and highly incapacitating.[5] Accordingly, we interviewed patients from a university mental health outpatient clinic to investigate (1) the current prevalence of PTSD, and (2) the diagnosis rate of this disorder by psychiatrists in training.

Methods and materials

Participants

The participants were psychiatric outpatients over the age of 18 under treatment at the Institute of Psychiatry of the Universidade Federal do Rio de Janeiro. A total of 501 patients were invited to participate in the study, of which 218 (43.5%) accepted and 200 completed the interview (39.9%; n=200). Eighteen participants did not conclude the interview due to disruptive behavior or cognitive impairment and were thus excluded from the study. Participant age ranged from 20-76 years old, with a mean of 48.02

(standard deviation [SD] = 12.39) years. The majority (n=118, 59%) were female. Regarding marital status: 102 (51%) were single, 56 (28%) were married or living in a stable relationship and 29 (14.50%) were divorced. Regarding education level: 28 (14%) did not complete elementary or middle school, 48 (24%) dropped out from high school, 61 (30.5%) completed high school, and 63 (31.5%) had at least some college education.

Measures

Interviews were carried out between June 2015 and August 2015. Patients attending their regular appointments were invited to participate in the research. After signing the informed consent form, the volunteers were interviewed by trained psychology students. The following instruments were employed:

Sociodemographic questionnaire

Sociodemographic characteristics were assessed with a self-report questionnaire that was developed for clinical and research purposes by the authors.

Trauma History Questionnaire (THQ)

The THQ is a 24-item self-report questionnaire that records exposure to traumatic events (criterion A1) necessary for a PTSD diagnosis according to the DSM-IV.[18] The Brazilian Portuguese version was developed by Fiszman et al.[19]

Structured Clinical Interview for DSM-IV – PTSD section (SCID-IV)

The PTSD module of the Brazilian-Portuguese version of the Structured Clinical Interview for DSM-IV Axis I (SCID-IV)[20] was used to determine the presence of full PTSD according to the DSM-IV criteria. Partial PTSD was considered present in participants who fulfilled the criteria for 2 of the 3 symptom clusters.[21] Although there was no formal inter-rater reliability assessment, the diagnostic procedure involved an iterative process with constant supervision by experts.

Post-Traumatic Stress Disorder Checklist – Civilian Version (PCL-C)

The PCL-C is a 17-item self-report questionnaire based on DSM-IV criteria for PTSD. Patients indicate to what degree they have experienced PTSD symptoms during the last month, classifying them on a 5-point scale (1 = not at all to 5 = very much). The PCL-C score ranges from 17 to 85, with higher values implying more severe PTSD symptoms.[22] The Brazilian Portuguese version of the PCL-C has good internal consistency (Cronbach's α = 0.89) and test-retest reliability (r = 0.83).[23]

Patients were interviewed with the full SCID-IV PTSD module and filled out the PCL-C only if they fulfilled both the A1 and A2 criteria for SCID-IV PTSD. After completing the clinical assessments, the interviewers checked the patients' medical records for current diagnoses by psychiatrists in training.

Statistical analysis

First, the full and partial PTSD prevalence rates were estimated according to the SCID-IV interview and were then cross-tabulated with the psychiatrist in training diagnosis (or not) of PTSD. The groups with full, partial and no PTSD were then compared in terms of demographics (age, sex, educational level and marital status) and symptom severity (PCL-C). For continuous variables, comparisons were made using analysis of variance (ANOVA) followed by post-hoc t-tests; for categorical variables, chi-square tests were used with partitioning of the contingency tables used to explore post-hoc pairwise differences.[24] Post-hoc testing was adjusted with Bonferroni-Hochberg corrections.[25] For total PCL-C scores, an independent samples t-test was used to compare the full and partial PTSD groups. All analyses were performed with Stata 12 software.[26]

Ethics statement

The Universidade Federal do Rio de Janeiro Institute of Psychiatry ethics committee approved the study protocol (process 854.811), including the informed consent forms, questionnaires, and procedures for recruiting and interviewing participants, as well as the mechanisms for protecting the participants' privacy, integrity and rights in conformity with Declaration of Helsinki principles. Respondents were interviewed only after having provided written informed consent. All patients were interviewed by trained psychology students. Patients could interrupt the interview if they felt tired or uncomfortable.

Results

PTSD prevalence

Table 1 shows the distribution of patients diagnosed with full, partial and no PTSD according to the SCID-IV interviews in relation to previous clinical diagnosis of PTSD.

Table 1 Number of patients with a full or partial PTSD diagnosis according to the SCID-IV

Previous clinical PTSD diagnosis	SCID-IV PTSD diagnosis		
	No PTSD	Partial PTSD	Full PTSD
No	137 (99.3)	21 (100.0)	40 (97.6)
Yes	1 (0.7)	0 (0.0)	1 (2.4)
Total	138 (100.0)	21 (100.0)	41 (100.0)

Data presented as n (%).
PTSD = posttraumatic stress disorder; SCID-IV = Structured Clinical Interview for DSM-IV Axis I Disorders.

Of the 200 patients participating in our study, 41 (20.5%) were diagnosed with current full PTSD according to the SCID-IV. Of these, 33 (80.5%) were women and eight (19.5%) were men. If partial PTSD cases were included, the total prevalence rate would increase to 62 cases (31%), of which 49 (79.1%) were women and 13 were (20.9%) men. Of the total number of patients diagnosed with current full PTSD, only one (2.4%) had been previously diagnosed with this disorder by a psychiatrist in training. Therefore, 97.6% of the patients had not been previously diagnosed with PTSD by the psychiatrists in training (false-negatives). The patients were not only routinely underdiagnosed but sometimes also misdiagnosed: of the two patients diagnosed with PTSD by their physicians, only one was confirmed by the SCID-IV (false-positives).

Demographic and clinical characteristics

There were no group differences in terms of age, $F_{2,197}$ = 0.28, p = 0.755, educational level ($\chi^2_{(4)}$ = 5.53, p = 0.237) or marital status ($\chi^2_{(4)}$ = 1.61, p = 0.807). There were significant differences regarding gender distribution ($\chi^2_{(2)}$ = 14.45, p = 0.001), with pairwise comparisons suggesting that there were no differences between the full and partial PTSD groups (p = 0.694), but both groups differed from patients without PTSD (respectively, p = 0.001 and p = 0.025), having significantly more women than men. As expected, the full PTSD group had significantly higher scores on the PCL-C scale than those diagnosed with partial PTSD: t_{59} = 3.34, p = 0.001 (Table 2).

Discussion

This is the first investigation into PTSD prevalence in an outpatient mental health setting with a semi-structured diagnostic interview to have been conducted outside of the United States. We found that although current PTSD is highly prevalent among psychiatric outpatients (20.5%), particularly women (27.9%), it went almost completely undiagnosed (97.6%).

The prevalence of current PTSD in our sample (20.5%) was higher than that found in other studies using semi-structured diagnostic interviews: 14.4%[11] and 11.2%,[9] in the United States. Although one other study has investigated current PTSD prevalence among U.S. psychiatric outpatients using a semi-structured diagnostic interview, it is not comparable since it assessed a specific preselected subsample of African-American individuals.[27] Other potentially relevant studies have reported only lifetime or 12-month prevalence figures.[6,10]

In addition to these studies, four others[4,5,7,8] have examined current PTSD prevalence in psychiatric outpatients, although they used self-report screening instruments rather than a semi-structured diagnostic interview. In these studies, the prevalence ranged from 7% in Norway[5] to 46% in Sweden.[4] It is widely acknowledged that self-report screening instruments are considered less appropriate for establishing a PTSD diagnosis than semi-structured interviews, which are the gold standard method.

The fact that PTSD prevalence in a Brazilian mental health outpatient setting was higher than that found in U.S. studies could reflect the higher rates of criminal violence in Brazil. Violence is one of the main causes of mortality and morbidity in all parts of the world; however, the numbers are more alarming in low-and-middle income countries. In 2000, 90% of violence-related deaths in the world occurred in these countries.[28] In Brazil, homicides accounted for 28.9 deaths per 100,000 people in 2015.[14] Indeed, Luz et al.[15] showed that the general Brazilian population is exposed to high levels of violence – 86% of her sample were exposed to at least one potentially traumatic event during their lives. Considering that interpersonal violence has higher conditional risks for PTSD than accidents or natural events,[29] and given the current levels of violence in Brazil, it would be expected that the population has a higher risk of developing PTSD. Furthermore, the general unreliability of public services, including health care and police, fosters a sense of insecurity and impotence,[30] which further increases the tragic consequences of traumatic exposure, including PTSD.

Table 2 Sociodemographic and clinical characteristics of the participants

Variables	No PTSD (n=138)	Partial PTSD (n=21)	Full PTSD (n=41)	Total (n=200)
Age in years, mean (SD)	48.0 (1.0)	49.7 (2.3)	47.1 (1.9)	48.0 (12.3)
Gender				
Male	69 (50.0)	5 (23.8)	8 (19.5)	82 (41.0)
Female	69 (50.0)	16 (76.2)	33 (80.5)	118 (59.0)
Educational level (up to)				
Primary school	36 (26.1)	6 (28.6)	10 (24.4)	52 (26.0)
Secondary school	65 (47.1)	6 (28.6)	14 (34.1)	85 (42.5)
College	37 (26.8)	9 (42.9)	17 (41.5)	63 (31.5)
Marital status				
Single	72 (52.2)	11 (52.4)	19 (46.4)	102 (51.0)
Married/living with partner	38 (27.5)	7 (33.3)	11 (26.8)	56 (28.0)
Divorced/widowed	28 (20.3)	3 (14.3)	11 (26.8)	42 (21.0)
PCL-C, mean (SD)	-	46.6 (2.3)	56.9 (1.7)	53.5 (1.5)

Data presented as n (%), unless otherwise specified.
PCL-C = Post-Traumatic Stress Disorder Checklist – Civilian Version (PCL-C); PTSD=posttraumatic stress disorder; SD = standard deviation.

Despite the high prevalence of PTSD in our sample, this disorder was grossly underdiagnosed (97.6% of the cases). To our knowledge, this is the first study using a semi-structured interview to have found such a low detection rate for PTSD in psychiatric outpatients. Two studies using self-report screening instruments yielded detection rates comparable to ours: Howgego et al.[7] found that a PTSD diagnosis was found in the medical records of only one in 27 PTSD-positive patients (3.7%), while Mkize[8] reported that none of the 18 PTSD-positive patients were diagnosed in their medical records.

There are several reasons for such poor rates of PTSD detection in mental health outpatient settings. First, PTSD is a "tricky" diagnosis. It is a highly pleomorphic disorder, and can be diagnosed in 79,794 different forms when applying the DSM-IV criteria; the changes in the DSM-5 resulted in an eightfold expansion to 636,120 combinations.[31] Although some have argued that DSM-5 defines PTSD too broadly in comparison with DSM-IV,[32] others have found the opposite[33]; the fact is that the exact impact of these modifications in PTSD prevalence has not been well-established.[34] For instance, a large national U.S. study of adults compared six different PTSD prevalence periods (lifetime, last month, etc.) according to the DSM-5 and the DSM-IV, and the DSM-5 prevalence rates were somewhat lower than those based on DSM-IV criteria, statistically significant in only two cases.[35] Therefore, we could not estimate the impact of using DSM-5 criteria in studies involving mental health settings.

PTSD is also frequently comorbid with other mental disorders, such as major depression, anxiety disorders, somatic symptom disorder, substance abuse and sleep disorders,[36,37] which can mask post-traumatic symptoms and lead to a missed diagnosis or a misdiagnosis.[37,38] Second, reporting traumatic events frequently evokes intense feelings of shame, humiliation and guilt.[39] These painful feelings are in great part responsible for the avoidance behavior seen in these patients – especially in interpersonal violence and sexual abuse victims.[5] Further, patients may not understand the link between trauma exposure and their own symptoms, failing to report the traumatic event.[40] Third, psychiatrists are not usually fully aware of the potential impact of traumatic events upon the mental health of their patients and may not actively investigate their occurrence during routine assessment.[11,41] Furthermore, psychiatrists may be reluctant to actively assess exposure to traumatic events due to the stigma involved and to time constraints.[41]

The present study has some limitations. First, our setting was an outpatient mental health clinic of a psychiatric teaching hospital. It is a well-established fact that, due to the Berkson's bias, the rates of psychopathology and comorbidity are higher in tertiary care samples than in community or epidemiologic samples.[42] This bias occurs because people with multiple disorders and greater disorder severity are more likely to seek treatment than those with only one disorder. Second, it could be argued that since the physicians in our outpatient mental health clinic are psychiatrists in training they might still lack the diagnostic skills necessary for adequate recognition of difficult diagnoses such as PTSD, and, consequently, this

may have contributed to the high rate of underdiagnosis. Nevertheless, two other similar studies from non-tertiary settings[7,8] involving experienced psychiatrists also found high rates of PTSD under-recognition. The third limitation is the relatively low response rate; however, since patients with more severe trauma (e.g., sexual abuse, rape), as well as those with PTSD, usually avoid talking about their traumatic event, this population may tend to refuse to participate in research. Finally, since we did not conduct formal inter-rater reliability testing, the potential bias would be in the direction of even higher rates of PTSD prevalence and underdiagnosis.

There are important clinical implications for both the high prevalence and underdiagnosis PTSD in the mental health outpatient populations. The finding that psychiatrists may be frequently failing to detect PTSD is not restricted to mental health outpatient settings but also occurs in primary care,[3,41] hospitalized patients,[43] and other highly comorbid samples.[44] The general difficulty in diagnosing PTSD indicates that there should be a more consistent and vigorous screening process in mental health settings. Direct questioning about traumatic events is essential to adequately assess PTSD symptoms and to develop effective treatment planning.[44] Therefore, the need to address trauma-related issues should be stressed in psychiatry curricula and psychiatrist training. From a therapeutic perspective, if traumatic events and PTSD are not correctly recognized, then effective treatment modalities, such as cognitive-behavioral therapy, may not be implemented.[11] Improved detection of PTSD and timely adequate treatment can lead to improved outcomes for those suffering from this devastating disorder.

Although PTSD is highly prevalent among mental health outpatients, it is astonishingly underdiagnosed. In order to identify PTSD, it is crucial to directly question mental health patients about exposure to traumatic events and their consequences. Incorrect PTSD diagnosis jeopardizes the implementation of an appropriate treatment plan, perpetuating patients suffering and disability.

Acknowledgements

Disclosure

The authors report no conflicts of interest.

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