ORIGINAL ARTICLES

Presence and influence of trauma in inpatient psychiatric care

Rachel B. Nowlin,* Sarah K. Brown, Jessica R. Ingram, Amanda R. Drake, Johan R. Smith

Universal Health Services, Inc., King of Prussia, PA, USA

ABSTRACT

Background: Previous research indicates traumatic exposure and posttraumatic stress disorder (PTSD) occur at a higher rate in people with severe mental illness (SMI) than in the general population, and co-occurring PTSD symptoms can worsen outcomes for patients with SMI.
Objective: This study assessed the presence and influence of PTSD symptoms in individuals with SMI in an inpatient psychiatric setting, and rates of PTSD diagnoses in this population.
Methods: Retrospective analysis of demographic information and behavioral health outcomes, using a representative sample of adult and geriatric inpatient psychiatric patients (N = 4,126).
Results: This study found elevated PTSD symptoms in over 65% of patients, and significant positive correlations between PTSD symptomatology and behavioral and emotional dysfunction. This study also explored differences in patients with PTSD symptoms who did and did not receive a PTSD diagnosis, finding associations for admission severity, race, and gender.
Conclusions: Traumatization and PTSD symptoms were prevalent in psychiatric inpatient settings, and had an impact on behavioral health outcomes. Recommendations include the use of PTSD screening in behavioral healthcare admission processes, and the furtherance of trauma-informed care for inpatient psychiatric patients with SMI, due to the volume of traumatization and PTSD symptoms in the population.

Key Words: Posttraumatic stress disorder, Severe mental illness, Inpatient psychiatry, Trauma screening, Trauma informed care

1. INTRODUCTION

When compared with the general population, individuals with severe mental illness (SMI) are more likely to report experiencing a traumatic event and to meet criteria for a diagnosis of post-traumatic stress disorder (PTSD), both across their lifetime and within the last 12 months, resulting in greater impairment in general functioning and increased usage of healthcare services.[1–4] In a review of studies from 1980 to 2010, SMI populations reported a mean lifetime prevalence rate of 47% for physical abuse, 37% for sexual abuse, and 30% for PTSD as assessed by validated tools.[5]

These prevalence rates vastly exceeded those seen in the general population (21% physical abuse, 23% sexual abuse, and 7% PTSD). While exposure to trauma does not guarantee the development of PTSD symptoms, individuals with SMI also have a higher number of overall trauma exposures than individuals without SMI, and amount of cumulative trauma exposure relates to the presence and severity of PTSD symptoms in patients with SMI.[6]

Patients with both SMI and PTSD symptoms report greater severity of psychological distress and slower recovery than

*Correspondence: Rachel B. Nowlin; Email: rachel.nowlin@horizonhealth.com; Address: Horizon Health, 1965 Lakepointe Dr, Suite 100, Lewisville TX 75057, USA.

both patients with SMI alone[2, 7] and patients with SMI and trauma exposure but no PTSD symptoms.[8] Research has supported models which propose PTSD symptoms interact with SMI and increase the severity of SMI symptoms in patients who have experienced trauma,[8–10] yet in many treatment settings, recognition and treatment of PTSD is secondary to management of SMI symptoms.[2]

The need for trauma-informed care – including trauma and PTSD symptoms as facets in treatment planning – is clear for patients with SMI.[11] However, such treatment requires trauma to first be identified. In previous investigations, trauma assessments were not consistently performed during intake processes in public mental healthcare settings.[12] Even when trauma assessments were performed, detecting trauma symptoms did not consistently lead to a trauma-informed treatment plan.[3] Diagnosis rates of PTSD in psychiatric treatment settings are also consistently lower than expected given the prevalence of trauma in the SMI population.[13, 14] Thus, it is difficult to know how under-identified and/or under-treated PTSD may be in an inpatient psychiatric setting.

This analysis used data from psychiatric inpatient programs to examine the presence of PTSD symptoms and diagnoses in a large sample of patients with SMI. Of interest were how PTSD symptoms relate to broader psychological and behavioral functioning at admission, and what presentations and characteristics may influence whether patients with elevated PTSD symptomatology receive a PTSD diagnosis. Findings are presented to support the need for trauma-informed care in mental health settings, and to highlight the use of routine trauma screening as a tool for distinguishing patient needs and developing treatment plans.

2. METHOD

2.1 Data source

This analysis used anonymous patient-level data collected by behavioral health units as part of routine clinical processes to monitor outcomes. Records came from adult and geriatric psychiatric inpatient stays during 2016-2017 at five distinct facilities. Three of the five units were in freestanding psychiatric hospitals (contributing 86% of the sample), and two units were inpatient units housed in medical-surgical hospitals. Regional location varied and included FL, PA, MO, and NC.

Each participating program was trained on the instruments and the collection process, which calls for administering forms at admission and discharge to all patients. Patients with a completed PTSD screener at admission (N = 4,126) were selected for inclusion. After selection for inclusion in

this analysis, the presence of a primary or secondary discharge diagnosis of PTSD was noted in each record.

2.2 Instruments

Data included patient-reported post-traumatic stress disorder symptom severity, measured by the Abbreviated PTSD Checklist (PCL-C-6).[15] The PCL-C-6 is a six-item self-report questionnaire that asks the respondent to indicate how much they have been bothered by problems related to stressful life experiences. The version used in this data is appropriate for a civilian population and anchored to "stressful experiences". Items are presented on a 5-point scale ranging from "not at all" (1) to "extremely" (5) and a total score is calculated by summing all 6 responses. In a general medical setting, patients who score 14 or above are considered to have screened positive for PTSD with further evaluation needed. In this analysis, PCL-C-6 scores below 14 were identified as "low" and scores 14 or higher were considered "high".

A subset of patients with PCL-C-6 scores also had completed the Behavior and Symptom Identification Scale (BASIS-32®) at admission.[16] The BASIS-32 is a widely-used self-report measure of general functioning useful for monitoring behavioral health outcomes. Patients are asked to rate their level of difficulty in 32 areas of functioning on a 5-point scale ranging from "No difficulty" (0) to "Extreme" (4). These items are used to calculate an overall mean score as well as five subscales: Relation to self/others, daily living/role functioning, depression/anxiety, impulsive/addictive behavior, and psychosis. One-third of patients (1,223) in this study had BASIS-32 scores available for analysis in addition to their PCL-C-6 scores.

2.3 Analysis

Descriptive statistics were calculated as frequencies and percentages for categorical data, and as means and standard deviations for continuous data. Patient admission severity was analyzed using ANOVA and pair-wise comparisons between PCL-C-6 total and item scores and BASIS-32 overall and subscale scores. Correlation was used to explore relationships between the BASIS-32 and the PCL-C-6. Differences in PTSD diagnosis assignment for patients with symptoms of trauma were assessed using regression models, examining the influence of individual PCL-C-6 items. All data were analyzed using IBM SPSS Statistics (version 25; IBM Corp, Armonk, NY).

3. RESULTS

Data were analyzed for 4,126 patients with a PCL-C-6 completed at admission to an inpatient psychiatric treatment program. The majority of patients were admitted to adult inpa-

tient units (92.9%). Most patients were male (62.8%), and the average patient age was 39.3. The most common primary diagnosis category was mood disorders (52.9%; see Table 1 for additional demographic information).

The average admission severity on the PCL-C-6 was 17.5 (SD 7.59), exceeding the suggested cutoff of 14 for the PCL-C-6 in a general setting. In these analyses, scores at or above the cutoff are considered "high", and scores below the cutoff are considered "low". As expected, low- and high-scoring patients differed not only in total PCL-C-6 score, but also in each of the six individual items that comprise the measure. Significant differences in BASIS-32 severity were also found, with overall and subscale BASIS-32 scores higher for patients scoring high on the PCL-C-6 (see Table 2).

To examine the relationship between PTSD symptoms and functioning, 1,223 patients with admission scores on both the PCL-C-6 and the BASIS-32 were compared. PCL-C-6 severity had a moderate to large positive correlation with overall severity on the BASIS-32 (tau = .623, $p < .001$), and with all BASIS-32 subscales (see Table 3). The BASIS-32 Depression and Anxiety subscale had the strongest correlation with the PCL-C-6 (tau = .602, $p < .001$) while the Psychosis subscale had the weakest correlation (tau = .515, $p < .001$). Regression indicated that in general higher scores on PCL-C-6 items are related to higher severity on the BASIS-32 when controlling for the other items, with the exception of "feeling very upset when something reminded you of a stressful experience from the past" ($\beta = -.017$, $p = .512$).

Table 1. Sample characteristics (N = 4,126)

Characteristics	PCL-C-6 Admission Severity < 14 (n = 1,415)		PCL-C-6 Admission Severity ≥ 14 (n = 2,711)		Total Sample (n = 4,126)	
	Percent	No.	Percent	No.	Percent	No.
Unit Type						
Adult Inpatient	90.4%	1,279	94.2%	2,553	92.9%	3,832
Geriatric Inpatient	9.6%	136	5.8%	158	7.1%	294
Sex*						
Male	66.2%	935	61.0%	1,650	62.8%	2,585
Female	33.8%	477	39.0%	1,053	37.2%	1,530
Race*						
White	73.3%	1,014	78.1%	2,083	76.5%	3,097
African American	25.3%	350	20.5%	548	22.2%	898
Other	1.4%	20	1.3%	36	1.4%	56
Hispanic Ethnicity*						
Yes	12.8%	144	11.6%	250	12.0%	394
No	87.2%	981	88.4%	1,899	88.0%	2,880
Primary Diagnosis Category*						
Mood Disorders	44.6%	627	57.2%	1,541	52.9%	2,168
Schizophrenia & other Psychotic Disorders	30.1%	423	26.2%	706	27.5%	1,129
Psychoactive Substance Use	14.6%	205	8.4%	227	10.5%	432
Anxiety & other Nonpsychotic Disorders	10.0%	141	7.0%	189	8.0%	330
Disorders of Personality & Behavior	0.8%	11	1.2%	31	1.0%	42
	Mean	SD	Mean	SD	Mean	SD
Age (years)	39.3	14.9	39.3	13.0	39.3	13.7
Length of stay (days)	8.4	15.5	7.7	15.7	8.0	15.7

Note. * Information not available for all records, therefore n may not sum to 4,126.

The majority (65.7%) of patients had high scores on the PCL-C-6, but only 7.6% of these patients also received a PTSD diagnosis (5.3% of the total sample). Further analy-

ses focused only on the high-scoring sub-sample of patients, to explore differences influencing the presence or lack of a PTSD diagnosis. Between the groups with and without a

PTSD diagnosis, there were significant differences in gender, race, and primary diagnosis category, while age did not differ. The PTSD-diagnosed group had a greater proportion of female patients (64.4% versus 36.9% for no diagnosis). Race distribution for the PTSD-diagnosed group was 84.2% White and 13.3% African American, while the non-PTSD diagnosed group was 77.6% White and 21.1% African American. Both groups were similar in proportion of mood disorders as a primary diagnosis (both 57%). However, the non-PTSD diagnosed group had a higher proportion of schizophrenia and psychotic disorders as a primary diagnosis than the PTSD-diagnosed group (27.2% and 14.2% respectively).

Table 2. PCL-C-6 and BASIS-32 admission severity

PCL-C-6 Admission Severity	Low PCL-C-6 Admission Severity		High PCL-C-6 Admission Severity				*p*-value pair-wise[*]	effect size pair-wise[*]
			No PTSD Diagnosis Reported		PTSD Diagnosis Reported			
	N = 1,415		N = 2,504		N = 207			
	Mean	SD	Mean	SD	Mean	SD		
Total Score	8.85	2.64	21.83	4.95	24.47	4.28	< .001	0.54
Items								
Disturbing memories, thoughts, or images	1.47	0.71	3.57	1.20	4.24	0.89	< .001	0.57
Feeling upset when reminded	1.48	0.68	3.70	1.15	4.22	0.89	< .001	0.46
Avoiding activities or situations	1.33	0.61	3.47	1.25	4.00	1.09	< .001	0.42
Feeling distant	1.58	0.85	3.89	1.10	4.25	0.98	< .001	0.33
Feeling irritable	1.43	0.71	3.43	1.25	3.69	1.23	.003	0.21
Difficulty concentrating	1.56	0.82	3.77	1.18	4.07	1.13	< .001	0.26

BASIS-32 Admission Severity	Low PCL-C-6 Admission Severity		High PCL-C-6 Admission Severity				*p*-value pair-wise[*]	effect size pair-wise[*]
			No PTSD Diagnosis Reported		PTSD Diagnosis Reported			
	N = 411		N = 711		N = 101			
	Mean	SD	Mean	SD	Mean	SD		
Total Score	0.79	0.62	2.14	0.90	2.41	0.98	.006	0.30
Subscales								
Daily Living	0.93	0.81	2.35	0.97	2.65	1.05	.007	0.31
Depression and Anxiety	1.20	0.89	2.75	0.92	3.03	0.85	.01	0.31
Impulsive/Addictive Behavior	0.48	0.57	1.72	1.13	1.89	1.29	.292	0.15
Psychosis	0.31	0.55	1.47	1.25	1.81	1.44	.011	0.26
Relation to Self and Others	0.93	0.84	2.34	1.00	2.64	1.02	.009	0.30

Note. [*] These values represent pair-wise comparisons with a Bonferroni procedure for only the two "high" PCL-C-6 admission score groups (with and without a PTSD diagnosis).

Table 3. Correlations between PCL-C-6 and BASIS-32 total and subscales at admission (N = 1,223)

		1	2	3	4	5	6	7
Total Scores	1. PCL-C-6	–						
	2. BASIS-32	.623	–					
BASIS-32 Subscale Scores	3. Daily Living	.567	.813	–				
	4. Depression and Anxiety	.602	.760	.694	–			
	5. Impulsive and Addictive Behavior	.533	.677	.544	.543	–		
	6. Psychosis	.515	.639	.540	.506	.622	–	
	7. Relation to Self and Others	.579	.795	.724	.673	.557	.524	–

Note. All correlations presented are significant at the *p* < .001 level.

High-scoring patients with and without a PTSD diagnosis differed in overall functioning and in their presentation of PTSD symptomatology. The PTSD-diagnosed group reported greater severity on the BASIS-32 than non-PTSD diagnosed patients, except on the Impulsive and Addictive Behavior subscale, where the two groups did not differ ($p = .292$). Total and individual item scores on the PCL-C-6 were significantly higher in the PTSD-diagnosed group ($p = .003$ for "feeling irritable", $p < .001$ for other items) compared to the non-PTSD diagnosed group. Medium effect sizes were seen on the three PCL-C-6 items which refer to a "stressful experience from the past", while items which correspond to more general PTSD symptoms (e.g., feeling lonely) had small effect sizes (see Table 2).

Logistic regression models were used to elucidate the relationship between individual PCL-C-6 item scores and the presence of a PTSD diagnosis for high-scoring patients. Only one PCL-C-6 item had a significant and positive influence on PTSD diagnosis status, "Repeated, disturbing memories, thoughts, or images of a stressful experience from the past." (OR = 1.553, $p < .001$). A second model controlled for patient demographics including age, gender, and race, revealing an influence of gender and race, in addition to the "disturbing thoughts" item (OR = 1.517, $p < .001$). Being female was associated with an increased likelihood of PTSD diagnosis (OR = 2.684, $p < .001$) while being African American rather than White was associated with a decreased likelihood (OR = 0.632, $p = .035$).

4. DISCUSSION

In this sample of adult and geriatric psychiatric inpatients, over 65% of assessed patients scored high on a PTSD screener, supporting previous findings that patients with SMI display a higher prevalence of PTSD symptoms than in the general population.[2] Additionally, PTSD symptoms correlated with dysfunction in daily living, depression, anxiety, impulsive behavior, relationships, and psychosis, consistent with research suggesting PTSD compounds difficulties for patients with SMI.[2, 7, 9]

Though the majority of patients reported elevated PTSD symptoms, only 5.3% of the total sample received a primary or secondary diagnosis of PTSD, supporting previous findings of PTSD's possible under-diagnosis in this population.[13, 14] However, further analyses indicate complexity in the diagnostic landscape of an inpatient setting. Despite both groups passing the cutoff on the PCL-C-6 screener, patients with PTSD symptoms who received a PTSD diagnosis reported greater severity on both the PCL-C-6 and the BASIS-32's measure of general functioning than patients who had PTSD symptoms but were not diagnosed with PTSD.

Our findings also suggest high scores on the PCL-C-6 may originate from non-trauma-driven distress for some patients: Patients who received a PTSD diagnosis had higher scores on trauma-specific items of the PCL-C-6 than patients who did not, and differential diagnosis patterns were seen specifically on the "Repeated, disturbing memories, thoughts, or images of a stressful experience from the past" item. For patients not experiencing trauma-specific distress, perhaps high scores on the PCL-C-6 are picking up "noise" from other symptoms of SMI. This is supported by our sample, where patients with psychotic disorders scored high on the PCL-C-6 but were less likely to have a PTSD diagnosis.

There were also differences in diagnostic patterns based on patient characteristics. All other factors held constant, women with PTSD symptoms were more likely to be diagnosed with PTSD than similar men, while African American patients with PTSD symptoms were less likely to be diagnosed than their White counterparts. Literature offers support that women are more likely to develop PTSD in response to traumatic exposure than men,[17] indicating some difference may be expected. However, mental health concerns in men and African Americans often go undetected in medical care settings,[18] and African Americans with PTSD are reported to be under-diagnosed due, in part, to a lack of access to mental healthcare.[19, 20] This study describes a large real-world sample of individuals in acute psychiatric settings, and demonstrates patterns of diagnosis similar to previous research in medical settings. The continuing differences in diagnosis patterns in a psychiatric setting suggest further research may be needed to identify potential bias in behavioral health settings.

Complicating the evaluation of diagnostic patterns, a significant portion of patients with SMI may have trauma exposure and PTSD symptoms but not meet criteria for diagnosis, having "subthreshold PTSD". In mental healthcare settings, patients with subthreshold PTSD experience more dysfunction than trauma-exposed patients with no PTSD symptoms,[21] and our results support this: Scores on the PCL-C-6 correlated positively with BASIS-32 overall and subscale scores, regardless of PTSD diagnosis. This pattern indicates a need for trauma-informed care in inpatient psychiatric settings, and literature supports patients with PTSD symptoms and SMI respond when trauma is included as a component of their treatment.[22, 23]

4.1 Limitations

Data used in these analyses were collected from real-world inpatient units, rather than controlled laboratory environments. Facilities were trained to administer measures to all patients at admission, so while selection bias in which tools

a patient completed was possible, it is not assumed. These data included patient-reported functioning and PTSD symptoms, but no externally-verified records of trauma history. These data also did not include information about diagnostic practices or assessments used beyond the PCL-C-6 and BASIS-32, so we cannot estimate how many patients with PTSD symptomatology met criteria for diagnosis. However, the purpose of this analysis was not to assess the PCL-C-6 as a diagnostic tool, but to explore the hypotheses that inpatient psychiatric units may serve a large group of patients who present with PTSD symptoms, and that the presence of PTSD symptoms may influence overall patient severity and presentation.

Another concern is the high relatedness of scores on the PCL-C-6 and the BASIS-32, which may indicate the measures are capturing similar domains of psychological distress, rather than PTSD symptoms influencing functioning in unique ways. This may be compounded by the fact that the PCL-C-6 is comprised of 3 items that specifically refer to a traumatic incident, and 3 items that refer to more broad functioning. In our analyses, we noted a difference in response patterns on the "specific" items versus the "general" items, particularly between high-scoring patients with and without a PTSD diagnosis. Though symptoms of SMI and PTSD may interrelate, PTSD symptoms did appear to carry unique weight among PTSD-diagnosed patients in this sample.

4.2 Recommendations

While PTSD can be a recurrent and lifelong disorder that may not be fully treated in one inpatient stay, co-occurring PTSD and SMI are likely best treated in conjunction. These authors believe there is a need for trauma-informed care for patients with SMI, which will require providers to assess, acknowledge, and treat the trauma in patients within their programs. Our findings also suggest more information is needed about the rates of PTSD and subthreshold PTSD in inpatient psychiatric settings, data which could be similarly gathered through the implementation of consistent and applied trauma screening and patient outcomes tracking.

REFERENCES

[1] Lu W, Yanos PT, Silverstein SM, et al. Public mental health clients with severe mental illness and probable posttraumatic stress disorder: Trauma exposure and correlates of symptom severity. Journal of Traumatic Stress. 2013; 26: 266-273. PMid:23508645. https://doi.org/10.1002/jts.21791

[2] Grubaugh AL, Zinzow HM, Paul L, et al. Trauma exposure and posttraumatic stress disorder in adults with severe mental illness: A critical review. Clinical Psychology Review. 2011; 31: 883-899. PMid:21596012. https://doi.org/10.1016/j.cpr.2011.04.003

[3] Cusack KJ, Frueh BC, Brady KT. Trauma history screening in a community mental health center. Psychiatric Services. 2004; 55: 157-162. PMid:14762240. https://doi.org/10.1176/appi.ps.55.2.157

[4] Mueser KT, Goodman LB, Trumbetta SL, et al. Trauma and posttraumatic stress disorder in severe mental illness. Journal of Consulting and Clinical Psychology. 1998; 66: 493-499. PMid:9642887. https://doi.org/10.1037/0022-006X.66.3.493

[5] Mauritz MW, Goossens PJJ, Draijer N, et al. Prevalence of interpersonal trauma exposure and trauma-related disorders in severe mental illness. European Journal of Psychotraumatology. 2013; 4(1). PMid:23577228. https://doi.org/10.3402/ejpt.v4i0.19985

[6] Muenzenmaier K, Schneeberger AR, Castille DM, et al. Stressful childhood experiences and clinical outcomes in people with serious mental illness: A gender comparison in a clinical psychiatric sample. Journal of Family Violence. 2014; 29: 419-429. https://doi.org/10.1007/s10896-014-9601-x

[7] McNeill SA, Galovski TE. Coping styles among individuals with severe mental illness and comorbid PTSD. Community Mental Health Journal. 2015; 51: 663-673. PMid:26044653. https://doi.org/10.1007/s10597-015-9887-z

[8] Spitzer C, Vogel M, Barnow S, et al. Psychopathology and alexithymia in severe mental illness: The impact of trauma and posttraumatic stress symptoms. European Archive of Psychiatry and Clinical Neuroscience. 2007; 257: 191-196. PMid:17464547. https://doi.org/10.1007/s00406-006-0669-z

[9] Subica AM, Claypoole KH, Wylie AM. PTSD's mediation of the relationships between trauma, depression, substance abuse, mental health, and physical health in individuals with severe mental illness: Evaluating a comprehensive model. Schizophrenia Research. 2012; 136: 104-109. PMid:22104139. https://doi.org/10.1016/j.schres.2011.10.018

[10] Mueser KT, Rosenberg SD, Goodman LA, et al. Trauma, PTSD, and the course of severe mental illness: An interactive model. Schizophrenia Research. 2002; 53: 123-143. https://doi.org/10.1016/S0920-9964(01)00173-6

[11] Mihelicova M, Brown M, Shuman V. Trauma-informed care for individuals with serious mental illness: An avenue for community psychology's involvement in community mental health. American Journal of Community Psychology. 2018; 61: 141-152. PMid:29266247. https://doi.org/10.1002/ajcp.12217

[12] Cusack KJ, Grubaugh AL, Knapp RG, et al. Unrecognized trauma and PTSD among public mental health consumers with chronic and severe mental illness. Community Mental Health Journal. 2006; 42: 487-500. PMid:16868841. https://doi.org/10.1007/s10597-006-9049-4

[13] Alexander AA, Welsh E, Glassmire DM. Underdiagnosing posttraumatic stress disorder in a state hospital. Journal of Forensic Psychology Practice. 2016; 16: 448-459. https://doi.org/10.1080/15228932.2016.1234142

[14] Zanville HA, Cattaneo LB. Underdiagnosing and nontreatment of posttraumatic stress disorder in community mental health: A case study. Psychological Services. 2009; 6: 32-42. https://doi.org/10.1037/a0014410

[15] Lang AJ, Stein MB. An abbreviated PTSD checklist for use as a screening instrument in primary care. Behaviour Research and Therapy. 2005; 43: 585-594. PMid:15865914. https://doi.org/10.1016/j.brat.2004.04.005

[16] Eisen SV, Grob MC, Klein AA. BASIS: The development of a self-report measure for psychiatric inpatient evaluation. The Psychiatric Hospital. 1986; 17: 165-171.

[17] Simmons CA, Granvold DK. A cognitive model to explain gender differences in rate of PTSD diagnosis. Brief Treatment and Crisis Intervention. 2005; 5(3): 290-299. https://doi.org/10.1093/brief-treatment/mhi021

[18] Borowsky SJ, Rubenstein LV, Meredith LS, et al. Who is at risk of nondetection of mental health problems in primary care? Journal of General Internal Medicine. 2000; 15: 381-388. PMid:10886472. https://doi.org/10.1046/j.1525-1497.2000.12088.x

[19] Davis RG, Ressler KJ, Schwartz AC, et al. Treatment barriers for low-income, urban African Americans with undiagnosed posttraumatic stress disorder. Journal of Trauma and Stress. 2008; 21: 218-222. PMid:18404649. https://doi.org/10.1002/jts.20313

[20] Graves RE, Freedy JR, Aigbogun NU, et al. PTSD treatment of African American adults in primary care: The gap between current practice and evidence-based treatment guidelines. Journal of the National Medical Association. 2011; 103: 585-593. https://doi.org/10.1016/S0027-9684(15)30384-9

[21] Grubaugh AL, Magruder KM, Waldrop AE, et al. Subthreshold PTSD in primary care. Journal of Nervous and Mental Disorders. 2005; 193: 658-664. https://doi.org/10.1097/01.nmd.0000180740.02644.ab

[22] Sacks SA, Schwartz B, Mueser KT. A Pilot study of the trauma recovery group for veterans with post traumatic stress disorder and co-occurring serious mental illness. Journal of Mental Health. 2017; 26: 237-241. PMid:27649807. https://doi.org/10.1080/09638237.2016.1222057

[23] Swan S, Keen N, Reynolds N, et al. Psychological interventions for post-traumatic stress symptoms in psychosis: A systematic review of outcomes. Frontiers in Psychology. 2017; 8(341): 1-14. PMid:28352239. https://doi.org/10.3389/fpsyg.2017.00341