

Research article

The relationship between bullying and symptom presentation in first-episode psychosis

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ABSTRACT

Multiple recent studies have indicated that adverse psycho-traumatic experiences are particularly significant, if not the most significant, among the environmental factors that participate in the etiology of schizophrenic spectrum disorders. The prevalence of bullying in the adolescent population has increased dramatically compared to earlier reports. This may be related to the recent development of communication technology and the use of social media, which have expanded how bullying can be practiced. The present study aims to investigate the association between bullying victimization and psychotic symptoms in First-Episode Psychosis (FEP) patients, hypothesizing that patients who have a bullying history may have increased psychotic symptoms and a more unfavorable early trajectory after treatment as usual compared to patients who do not have a bullying history. Research data were collected from a sample of men and women of the Greek general population aged between 16 and 45 (N=225) who experienced a FEP in the context of the Athens First-Episode Psychosis (FEP) Study. The assessment of bullying was performed using the Retrospective Bullying Questionnaire (RBQ). Assessment of positive and negative psychotic symptoms and general psychopathology were performed using the corresponding subscales of the Positive and Negative Syndrome Scale (PANSS) at baseline and after 4 weeks of treatment as usual. Clinical remission was assessed based on the baseline and follow-up values of the PANSS and Andreasen's symptomatic criteria. Methodologically, Pearson's chi-square test was used to compare the history of bullying between men and women, while linear and logistic regression models were used to check the correlations between history of bullying and symptom severity at baseline and 4-week follow-up, as well as the correlation between history of bullying and remission. The prevalence of bullying history in our sample of patients with a FEP was 51.4% (114/225). Bullying was recorded in our study participants with equal frequency in women and men. According to the analysis results, the patients who had experienced bullying did not present at baseline with significantly increased psychotic symptoms compared to the patients who did not have a history of bullying. In addition, bullying was not associated with reduced remission according to Andreasen's criteria. However, the patients who had experienced bullying were found to have significantly increased negative symptoms ($B=1.66$; $SE=0.70$; $p=0.018$) and increased PANSS total score ($B=4.81$; $SE=2.34$; $p=0.041$) at 4-week follow-up. Our results highlight the persistence of negative and overall symptoms as an impact of bullying on the development of the FEP and align with studies that support the consideration of a history of bullying during both the diagnostic and therapeutic processes.

KEYWORDS: Childhood trauma, adversities, bullying, First-Episode Psychosis, Clinical High Risk, early psychosis, symptoms.

Introduction

Epidemiological research over the last decades has provided well-documented evidence on the association of childhood adversities with schizophrenia spectrum disorders (SSD), highlighting the importance of the identification of Clinical High-Risk (CHR) individuals with a history of one or more childhood adversities.¹ It has been proposed that childhood adversities, such as physical, sexual, and emotional abuse, emotional and physical neglect, parental deprivation, and peer victimization, represent potential environmental contributors to both the onset² and the trajectory^{3,4} of SSD. Additionally, the prevalence of bullying in the adolescent population might have increased by up to 50% or more⁵ compared to the rates reported one or two decades ago. Recent advances in communication technology and the use of social media have expanded the means of bullying,^{6,7} and experts have linked peer victimization in schools to mental health problems characterized by educational difficulties and poor social outcomes.⁸

Multiple studies^{9–18} have shown an association between bullying victimization and subclinical psychotic symptoms, while Wolke et al,¹⁹ have argued that health professionals should routinely ask during consultations with children about their bullying experiences, as the estimated risk of developing psychotic experiences in bullied adolescents could substantially increase. Nevertheless, it is acknowledged that Sourander et al⁹ and Luukkonen et al²¹ reported no significant association between bullying victimization and the emergence of psychotic disorders in adulthood.

Trotta et al²² explored the association between bullying victimization and First-Episode Psychosis (FEP) in comparison to a control group, indicating that FEP patients were approximately twice as likely to report bullying victimization. In addition, Mackie et al¹⁵ argued that bullying victimization may increase the likelihood of persistent psychotic-like experiences compared to other risk factors, including cannabis use, depressive symptoms, and anxiety. Finally, according to the recent study by Wheeler et al,²³ bullying experiences should be taken seriously during the diagnostic process in early psychosis services, and their impact should be integrated into the treatment plan.

A significant number of hypotheses have been developed attempting to conceptualize how childhood adversities, such as bullying victimization, could impact affect, memory, and cognition to explain the occurrence and evolution of specific psychotic symptoms.^{24,25}

Suggested mechanisms include hallucinations as a variation of post-traumatic intrusions, which may mediate the role of dissociation between abuse and hallucinations; delusions as a result of childhood adversities via negative beliefs about self and others; and attachment insecurity. The traumatic neurodevelopmental model²⁶ proposes a pathway linking childhood adversities to both positive and negative symptoms through hyperarousal and disorganization of the biological stress system. In addition, another model suggests that poor attachment, social defeat, and depression may substantially contribute to the development of negative symptoms.^{27–30}

To date, a small number of empirical studies of varying methodological approaches have supported the above-mentioned conceptualization that psychotic symptoms do arise from certain childhood adversities, and these symptoms are more severe among patients with a history of childhood adversity.^{30,31}

Recent studies^{4,32,33} revealed evidence for poor treatment response in patients with early psychosis and a history of childhood adversity, bullying included. However, childhood adversity is highly understudied regarding treatment outcomes in psychotic disorders.³²

This is the first study in Greece aiming to investigate the association between bullying victimization and psychotic symptoms in a large cohort of FEP patients and explore the potential persistence of the symptoms following 4 weeks of treatment with antipsychotics. In particular, we hypothesized that (a) the severity of psychotic symptoms, assessed by the PANSS clinical interview at baseline, is higher among FEP patients reporting a history of bullying compared to FEP patients who have not experienced bullying, and (b) the early course of the illness is worse among FEP patients reporting a history of bullying, as the severity of psychotic symptoms typically persists after the initiation of antipsychotic treatment when assessed at the 4-week follow-up.

Material and Method

Participants

The Athens FEP Research Study^{34–36} is an observational cohort study designed to explore the potential interaction between environmental and genetic factors that affect the development, early course, and severity of psychosis. The psychiatric departments of five hospitals in Athens (Eginitio University Hospital, 414 Military Hospital, Attikon University Hospital, Sismanoglion General Hospital, and Sotiria General Hospital) participated in the study. The clinical population of the study

consisted of patients aged 16–45 diagnosed with FEP. The patients presenting in a psychiatric setting for the first time due to a full-blown psychotic episode were drug-naïve or they were exposed to antipsychotic medication for some time less than 2 weeks. Exclusion criteria were organic causes of psychotic symptoms (medical illness or acute intoxication), $IQ \leq 70$, developmental deficits, sub-threshold manifestations reflecting an at-risk phenotype,³⁷ and kinship with patients already enrolled in the study. The sample was collected between March 2015 and March 2020. All participants were screened using the Diagnostic Interview for Psychosis (DIP), a standardized semi-structured interview that generates diagnoses according to different diagnostic algorithms based on the Operational Criteria Checklist for Psychotic Illness (OPCRIT).³⁸

Of the 279 identified individuals eligible for the study, 225 were included in the final dataset. Interviews at baseline, 1-month, and 1-year were conducted by clinically qualified clinicians who were formally trained by authorized trainers to apply the assessment instruments. At 1-month and 1-year follow-up, expert consensus meetings were held involving the principal investigators and the research associate assigned to each case to determine ICD-10,³⁹ DSM-IV-TR,⁴⁰ and DSM-5⁴¹ diagnoses. The clinical, environmental, and other psychometric measurement tools were compatible with those used in the European Network of National Schizophrenia Networks studying Gene-Environment Interactions (EU-GEI).⁴² The study protocol has been approved by the Research Ethics Committees of the five participating hospitals, and the patients provided signed informed consent before entering the study.

Assessments

Assessment of the psychotic symptoms

At baseline, information regarding sample demographic characteristics was gathered. The positive and negative psychotic symptoms, as well as general symptoms and the total score, were assessed at baseline and 4-week follow-up, using the Positive and Negative Syndrome Scale (PANSS).^{43,44} The inter-rater reliability of the investigators was evaluated through the intra-class correlation coefficient (ICC) and was found to be 0.640 for eight successful raters.³⁵

Clinical remission assessment (Remission) was based on PANSS scores at admission (baseline) and 4-week follow-up and treatment as usual, using the symptom severity specification of the Andreasen criteria⁴⁵ as a distinct threshold of improvement without the time criterion. Patients who did not meet these criteria were

considered non-remitters following antipsychotic treatment.³⁶

Bullying assessment

The severity of bullying by peers (emotional, psychological, or physical violence) before 17 years of age was assessed using the short version of the Retrospective Bullying Questionnaire (RBQ).^{46,47} RBQ is one of the measurement tools provided to the FEP Athens Study by the European Network of National Schizophrenia Networks to perform compatible assessments studying Gene-Environment Interactions (EU-GEI).^{48,49} RBQ was translated to Greek and was characterized by satisfactory test-retest reliability in all items.⁵⁰ RBQ measures the severity of bullying experiences as follows: 0="none"; 1="some (no physical injuries)"; 2="moderate (minor injuries or transient emotional reactions)"; 3="marked (severe and frequent physical or psychological harm)". For subsequent analyses, bullying severity was dichotomized, considering "none" as 0 and "some", "moderate", and "marked" as 1 (cut-off point ≥ 1).⁴⁹

Statistical analysis

Pearson's chi-square (χ^2) test was used to compare bullying severity between males and females. Linear regression analyses were performed to investigate the association between bullying and symptom severity at baseline and 4-week follow-up, reporting the corresponding regression coefficients (β) and their standard errors (SE). Separate regression models were tested at baseline and follow-up, including PANSS-derived subscale scores as the outcome variables (i.e., positive symptoms, negative symptoms, and general psychopathology). The analyses were adjusted for age, sex, and education level. Linear regression analyses were performed using logarithmic transformations. To investigate the association between bullying and remission, a logistic regression analysis was performed, and odds ratios with their 95% confidence intervals (95% CI) were obtained adjusting for age, sex, and education level. All statistical analyses were conducted using SPSS 24.0.

Results

As part of the Athens FEP Research Study, we assessed a total of 225 subjects diagnosed with FEP. Detailed sociodemographic information, including gender, age, education level, employment, birth rank, number of siblings, and living-with-others history, as well as clinical characteristics, are presented in table 1. Our FEP sample consisted of 151 males (67.1%) and 74 females (32.9%). There was no difference between males and

Table 1. Sociodemographic information for individuals enrolled in the Athens FEP Research Study.

		N	%
Gender	Male	151	67.1
	Female	74	32.9
Age of onset mean (SD)		25.4 (7.5)	
Education (Years) mean (SD)		13.7 (2.5)	
Presence of bullying (binary outcome)		114	51.4
Employment (Now)	Unemployed	67	29.8
	Military service	22	9.8
	Student	65	28.9
	Part time job	14	6.2
	Full time job	43	19.1
	Self-employed	9	4
	Other	5	2.2
Birth Rank	1st	101	46.1
	2nd	73	33.3
	3rd	31	14.2
	4th	9	4.1
	5th	2	0.9
	6th	1	0.5
	7th	1	0.5
	Twins	1	0.5
History of long-term relationship (>12 months)		104	47.7
Having children		16	7.2
Having lived with other people (except parents)		144	65.8

females in the proportion of subjects who reported bullying experiences (51.4% of males and 51.4% of females, $p=0.999$). The mean age of onset was 25.4 years ($SD=7.5$ years) and the mean education was 13.7 years ($SD=2.5$ years). The proportion of FEP subjects who reported bullying experiences in our sample was 51.4% (114/225). Considering the sample size and the normality assessment results of our dataset, the distribution of the values of the quantitative variables was assumed to be normal.

We examined with linear regression models the association between PANSS subscale scores at baseline (positive symptoms, negative symptoms, general psychopathology symptoms, total PANSS score) as the dependent variables and bullying severity as the independent variable. Gender, age, and education level were entered as covariates. No significant correlation was observed between bullying severity and PANSS subscale scores at baseline (table 2).

When symptom severity was tested at follow-up, the FEP subjects who reported bullying were characterised by significantly elevated negative symptoms compared to those without bullying history ($\beta=1.66$; $SE=0.70$; $p=0.018$). In addition, FEP subjects who reported bullying had significantly higher values in PANSS total score ($\beta=4.81$; $SE=2.34$; $p=0.041$). The results are shown in table 3.

Finally, a multivariate logistic regression analysis was performed with remission status as the dependent variable, bullying as the independent variable, and age, gender, and education level as covariates. No significant association was found between clinical remission, according to the Andreasen symptomatic criteria, and bullying severity, controlling for age, gender, and education level ($OR=0.94$; 95% CI 0.53–1.68; $p=0.847$).

Discussion

Our results indicate that almost half of our FEP sample (51.4%) has experienced bullying. Males and females reported bullying with equal frequency. In accordance with our observation, Trotta et al²² have shown that 48% of patients with FEP in their European sample who ultimately received a diagnosis of schizophrenia reported bullying. Moreover, in the study of Trotta et al and our study, there was no difference in the prevalence of bullying among patients concerning gender. Braun et al⁵ reported bullying in patients with early psychosis at a rate of 62%, with a predominance among males. In both aforementioned reports, bullying rates were higher in the clinically affected population than in the general population control sample. Reviewing the epidemiological studies in the Greek population, we found rates of serious and continuous bullying of 8.5%, with males reaching rates of 23.9% in experience of violence during the last year and females 8.3%.⁵¹ In addition, the rate of online bullying in Greece is 27%, with increasing trends and a greater risk of victimization among girls.⁷ Until recently, reports in the literature considered males to be more exposed to multiple social factors associated with bullying and therefore more likely to be bullied.^{8,52} However, the findings of Trotta et al²² suggest that the association of bullying with psychosis may be higher in females. The explanation given was that females tend to internalize the effects of abuse in contrast to males, who often externalize their experiences. The internalization of problems has been found by Fisher et al¹⁶ to be a mediating factor in the development of psychotic symptoms.

Our first hypothesis was not confirmed. From our data analysis of the assessment of psychotic symptoms at

Table 2. Results of multivariate linear regression with baseline PANSS scores as the outcome.

		β ^a	SE ^b	P
PANSS positive symptoms baseline	No bullying			
	Yes	-0.25	0.95	0.793
PANSS negative symptoms baseline	No bullying			
	Yes	0.01	1.25	0.995
PANSS general symptoms baseline	No bullying			
	Yes	-3.16	1.87	0.092
PANSS total symptoms baseline	No bullying			
	Yes	-3.36	3.23	0.299

a. Dependence coefficient controlling for gender, age, and education level

b. Standard errors

Table 3. Results of multivariate linear regression with follow-up PANSS scores as the outcome.

		β ^a	SE ^b	P
PANSS positive (follow-up)	No bullying			
	Yes	1.03	0.75	0.172
PANSS negative (follow-up)	No bullying			
	Yes	1.66	0.70	0.018
PANSS general symptoms (follow-up)	No bullying			
	Yes	1.91	1.19	0.109
PANSS total symptoms (follow-up)	No bullying			
	Yes	4.81	2.34	0.041

a. Dependence coefficient controlling for gender, age, education level, and corresponding PANSS baseline score

b. Standard errors

baseline, it was found that FEP patients with a bullying history do not have significantly higher scores compared to those without a bullying history. However, it is interesting to note that at the 4-week follow-up assessment, FEP patients reporting bullying have significantly higher scores in the negative symptoms subscale of PANSS as well as in the total PANSS score. In the statistical analysis of the data from the clinical assessment with PANSS after 4 weeks of treatment with antipsychotics, taking into account clinical severity at baseline, the association of bullying with an increased PANSS score at follow-up could be an indicator of reduced therapeutic effect in these patients. FEP patients with a bullying history are likely to be characterized by reduced clinical improvement, even though we did not find a significant association between bullying and remission according to the Andreasen symptomatic criteria.⁴⁵ Our results are consistent with previous studies linking poor treatment response to maltreatment, including victimization by peers.^{32,33} Lecomte et al⁵³ pointed out the tendency shown by patients with a his-

tory of childhood adversity toward reduced and insufficient engagement with mental health services. In addition, Lysaker et al⁵⁴ have reported that psychotic patients with a history of childhood adversity often show poor therapeutic relationships. Pruessner et al⁴ argued that the effects of adversities may not be distinguished at the onset of FEP and reduced clinical improvement could reflect the negative impact of traumatic experiences.

It is argued that the observation of less improvement of negative symptoms among FEP patients with a bullying history might be explained by the attachment theory^{27,28} and social defeat model²⁹ Specifically, peers are essential attachment figures for the social development of the child and/or adolescent, and peer victimisation is likely to cause the individual to "learn" to be helpless and pessimistic about the outcome of his/her relationships. Berry et al⁵⁵ argued that early trauma is associated with dysfunctional interpretations of interpersonal contexts and the development of attachment insecurity, including worry about relationships, difficul-

ty trusting others, and social withdrawal. Presumably, worry, mistrust, a real or perceived absence of control, and avoidance behaviors could expand over the therapeutic relationship, tending to reduce the patient's therapeutic engagement and thus the therapeutic outcome. Our results indicate significantly less improvement of negative symptoms after 4 weeks of treatment as usual, and this could be interpreted beyond the attachment theoretical context by epidemiological evidence⁵⁶ that links 'attachment' trauma to negative symptoms.

Considering biological theories, cumulative stress derived from bullying victimization may deregulate the hypothalamic-pituitary-adrenal (HPA) axis²⁶ and sensitize the dopamine system. Dopamine system sensitization is responsible for aberrant salience of stimuli, including misconceptions related to social relationships, and might lead *de novo* to stress and a vicious cycle. Cao et al⁵⁷ have demonstrated that social defeat could increase hyperpolarisation-activated cation current in the ventral tegmental area (VTA) in dopamine neurons, which influences behavioral susceptibility and resilience to chronic defeat stress.

Our research work involves patients with FEP who were recruited in five different hospitals providing psychiatric services in Athens without any catchment area restriction and have been treated using a pragmatic approach according to the general psychiatric practice guidelines. Thus, the participants reflect a real-world cohort of individuals with FEP, which underpins the external validity of the presented findings. In addition, most of the participants were drug-naïve or had received low doses of antipsychotic medication for less than 2 weeks before their recruitment. This is essential for minimizing possible confounding factors resulting from the chronicity of the disease and long-term medication use.³⁵

Nonetheless, the results should be interpreted with caution due to certain limitations. Several earlier studies⁵⁸ have shown some bias in retrospective childhood adversity reports, mostly regarding recalling childhood adversity memories and providing information affected by current psychotic symptoms. Particularly about bullying, it has been suggested that the design of data collection should include both peer and self-reports.⁵⁹ Varese et al,² however, have demonstrated that the effect of childhood adversity on psychosis remains significant regardless of study design, and Fisher et al⁶⁰ argued that information about the history of childhood adversity obtained by patients with psychosis is

reasonably reliable over time and thus should not be considered affected by current symptoms. Prospective cohort studies with assessments of bullying victimization and longitudinal associations with the potential development of psychotic illness later in life would be ideal to avoid recall bias, but they are unlikely to be feasible.²² As our sample includes FEP patients aged 16–45, we cannot rule out that victimization experiences occurred to adolescents and young adults after the onset of subclinical or clinical prodromal signs of psychosis, and those predisposed to psychosis may have attracted bullying by appearing odd and threatening to peers. However, Kelleher et al¹⁷ found that bullying victimization is still significant in psychosis-like experiences, even when a bidirectional relationship is taken into consideration.

Finally, our FEP sample might be heterogeneous,⁶¹ with several patients having suffered one or even more childhood adversities apart from bullying victimization. As the analyses were limited to the effects of bullying on symptom severity and clinical improvement, other types of childhood adversities might have confounded the relationship between bullying and psychosis.

Conclusion

This is the first study carried out in Greece to provide information about the impact of bullying on the development of psychotic symptoms during the first psychotic episode (FEP). More than half of patients with FEP reported a history of bullying, with an equal proportion between men and women. Patients with a history of bullying did not show a trend for increased symptoms at baseline but were characterized by reduced improvement in negative symptoms and overall psychopathology after 4 weeks of treatment as usual. Our results are consistent with the findings of previous studies indicating the role of bullying in the development of FEP and the necessity of considering it during both the diagnostic and therapeutic processes. We also support the view that bullying experiences might be interpreted based on the social defeat model and attachment theory. Nonetheless, they are indicative and not conclusive; therefore, caution is needed to avoid lapsing into over-interpretation. Additional validation of our research findings in longitudinal studies, taking into account factors such as the impact on functioning, the relationship of bullying to other childhood adversities, and the application of psychotherapeutic interventions, may provide substantial information that will improve the treatment plan and eventually the therapeutic outcomes in patients with FEP.

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Ερευνητική εργασία

Η σχέση του εκφοβισμού με τη συμπτωματολογία στο πρώτο ψυχωσικό επεισόδιο

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ΠΕΡΙΛΗΨΗ

Σύμφωνα με τις πρόσφατες μελέτες από το σύνολο των περιβαλλοντικών παραγόντων, οι οποίοι συμμετέχουν στην αιτιοπαθολογία των διαταραχών του ψυχωσικού φάσματος, ιδιαίτερα σημαντικός, αν όχι ο σημαντικότερος, καταδεικνύεται να είναι η ύπαρξη αντίξων ψυχοτραυματικών εμπειριών στη ζωή των ασθενών. Η συχνότητα της εμπειρίας εκφοβισμού εφήβων από συνομηλίκους έχει αυξηθεί δραματικά, συγκριτικά με παλαιότερες αναφορές, και ίσως σε αυτό έχει επιδράσει η ανάπτυξη της τεχνολογίας, της πληροφορικής και του διαδικτύου, που έχουν διευρύνει τα μέσα με τα οποία μπορεί να ασκηθεί ο εκφοβισμός. Σκοπός της παρούσας ερευνητικής εργασίας είναι ο έλεγχος της υπόθεσης, σύμφωνα με την οποία στο πρώτο ψυχωσικό επεισόδιο οι ασθενείς με ιστορικό εκφοβισμού έχουν αυξημένα ψυχωσικά συμπτώματα και δυσμενέστερη αρχική πορεία μετά από τη συνήθη θεραπευτική αντιμετώπιση, συγκριτικά με τους ασθενείς που δεν έχουν ιστορικό εκφοβισμού. Τα δεδομένα για την έρευνα συλλέχθηκαν από δείγμα ανδρών και γυναικών του ελληνικού γενικού πληθυσμού ηλικίας από 16 έως 45 ετών, οι οποίοι εμφάνισαν πρώτο ψυχωσικό επεισόδιο (N=225) στα πλαίσια της μελέτης "Athens First-Episode Psychosis (FEP) Study". Για την εκτίμηση του εκφοβισμού χρησιμοποιήθηκε το Αναδρομικό Ερωτηματολόγιο Εκφοβισμού (Retrospective Bullying Questionnaire, RBQ). Η εκτίμηση των θετικών και αρνητικών ψυχωσικών συμπτωμάτων και της γενικής ψυχοπαθολογίας έγινε με τις αντίστοιχες υποκλίμακες της PANSS κατά την είσοδο των ασθενών στη μελέτη (PANSS baseline) και μετά από 4 εβδομάδες συνήθους θεραπευτικής αντιμετώπισης (PANSS follow-up). Η ύφεση των συμπτωμάτων αξιολογήθηκε με βάση τις τιμές της PANSS κατά την είσοδο (PANSS baseline), τις τιμές κατά την επανεξέταση μετά από 4 εβδομάδες (PANSS follow-up) και τα συμπτωματικά κριτήρια Andreasen. Μεθοδολογικά, για τη λήψη πληροφοριών σχετικά με τη σύγκριση των ποσοστών ανδρών και γυναικών με ιστορικό εκφοβισμού χρησιμοποιήθηκε το test χ^2 του Pearson και για τον έλεγχο των συσχετίσεων του εκφοβισμού με τα συμπτώματα χρησιμοποιήθηκαν μοντέλα γραμμικής και λογιστικής παλινδρόμησης. Το ποσοστό του εκφοβισμού στο δείγμα ασθενών μας με πρώτο ψυχωσικό επεισόδιο ήταν 51,4% (114/225). Ο εκφοβισμός καταγράφηκε στους συμμετέχοντες στη μελέτη μας με την ίδια συχνότητα σε γυναίκες και άνδρες. Τα αποτελέσματα των αναλύσεων έδειξαν ότι κατά την είσοδο στη μελέτη οι ασθενείς που είχαν βιώσει εκφοβισμό δεν είχαν σημαντικά αυξημένα ψυχωσικά συμπτώματα σε σχέση με τους ασθενείς που δεν είχαν ιστορικό εκφοβισμού. Επιπλέον, δεν βρέθηκε συσχέτιση του εκφοβισμού με μειωμένο δείκτη ύφεσης (remission) σύμφωνα με τα κριτήρια Andreasen. Ωστόσο, βρέθηκε ότι οι ασθενείς με εκφοβισμό έχουν σημαντικά αυξημένα αρνητικά συμπτώματα ($B=1,66$, $SE=0,70$, $p=0,018$) και αυξημένο συνολικό αποτέλεσμα της PANSS μετά από 4 εβδομάδες συνήθους θεραπευτικής αντιμετώπισης ($B=4,81$, $SE=2,34$, $p=0,041$). Τα αποτελέσματά μας επισημαίνουν την επιμονή των αρνητικών και συνολικών συμπτωμάτων ως επίπτωση του εκφοβισμού στην εξέλιξη του πρώτου ψυχωσικού επεισοδίου και συμφωνούν με τις εργασίες που υποστηρίζουν ότι το ιστορικό εκφοβισμού θα πρέπει να λαμβάνεται υπόψη κατά τη διάρκεια τόσο της διαγνωστικής όσο και της θεραπευτικής διαδικασίας.

ΛΕΞΕΙΣ ΕΥΡΕΤΗΡΙΟΥ: Αντίξοες ψυχοτραυματικές εμπειρίες, εκφοβισμός, πρώτο ψυχωσικό επεισόδιο, λίαν υψηλός κίνδυνος για ψύχωση, πρόωμη ψύχωση, συμπτώματα.