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Children's adverse experiences and psychotic chronification

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ABSTRACT

Introduction. Research evidence points to a critical period of about five years after the first psychotic episode, being its resolution of utmost importance for the chronicity of the disorder. In addition, several studies suggest the high correlation between adult psychosis and childhood adversity, and a dose-response relationship in severity level.

This research aims to determine the dose-response relationship between adult psychosis and put it in relation to the resolution of the critical period.

Method. The sample was obtained among 45 patients undergoing treatment at the San Agustín University Hospital who experienced some psychotic episode. Questionnaires were applied for the analysis of psychopathology, childhood adversity and other sociodemographic and clinical variables.

Results. The results confirm the relationship between the frequency of childhood adversity and psychotic chronification.

Conclusions. Our research highlights the importance of childhood adversity in the future course of a psychosis and highlights the importance of anamnesis focusing this regard.

Key words. Psychosis, childhood trauma, critical period.

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Experiencias adversas infantiles y cronificación psicótica

RESUMEN

Introducción. La evidencia apunta a un período crítico de alrededor de cinco años tras el primer episodio psicótico de cuya resolución depende la cronicidad del trastorno. Además, diversos estudios apuntan la elevada correlación entre psicosis adulta y adversidad infantil, y una relación dosis-respuesta en nivel de gravedad.

El objetivo de la presente investigación es determinar la relación dosis-respuesta entre la psicosis adulta y la adversidad infantil y ponerla en relación con la resolución del período crítico.

Método. La muestra se obtuvo entre 45 pacientes a tratamiento en el Hospital Universitario San Agustín que habían experimentado algún episodio psicótico. Se aplicaron cuestionarios para el análisis de la psicopatología, la adversidad infantil y otras variables sociodemográficas y clínicas.

Resultados. Los resultados confirman la relación entre frecuencia de adversidad infantil y cronificación psicótica.

Conclusiones. Nuestra investigación pone de manifiesto la importancia de la adversidad infantil en el futuro curso de una psicosis y destaca la importancia de recoger estos aspectos en la anamnesis.

Palabras clave. Psicosis, trauma infantil, periodo crítico.

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INTRODUCTION

Eugen Bleuler[1] described the course of psychosis as an early deterioration, which subsequently reached a plateau of psychopathology and disability which remained stable over time. Currently, there is increasing evidence of a critical period of between two and five years after the first psychotic episode, during which the level of vulnerability to relapse and long-term disability can be determined[2, 3, 4] According to Lieberman[5], schizophrenia follows a course with four specific clinical stages: premorbid, prodromal, deteriorating and chronic. Fusar-Poli et al.[6] classify psychosis into the stages of non-specific distress, high-risk status, first episode, recurrence and persistence and resistance to treatment. The critical period hypothesis postulates that deterioration mainly occurs, if atall, during the first five years of psychosis, which remains relatively stable thereafter[7]. In the chronic or persistent phase, neurological deterioration is more substantial and longer lasting.

Considering the course of the psychosis and its critical period, it is estimated that a certain percentage of the first episodes detected in a Mental Health service will become chronic. This percentage varies according to the studies consulted and the criteria used. The meta-analysis by Hegarty et al.[8], based on 320 studies published between 1895 and 1992, found approximately 40% of patients with schizophrenia recovered. More recently, the systematic review by Menezes et al.[9] (2006), based on 37 studies, concluded that 42% of patients recovered. However, improvement for these authors did not require good clinical, social or functional results, or a period of improvement greater than 6 months. Warner et al.[10] analysed 114 follow-up studies (published between 1904 and 2000) and concluded that 11%-33% of those with first episodes recovered clinically and socially, while 22%-53% recovered only socially (i.e., psychotic symptoms persisted). The recent review by Jääskeläinen et al.[11] (2013) included clinical and functional criteria and required a recovery of at least 2 years. It found more modest recovery rates, of 8%-20%, and concluded that only one in seven individuals fully recovers after a first episode and diagnosis of schizophrenia. Although a later study by Hui et al.[12] (2018) yielded more hopeful figures: 37 of 178 patients (21%) did not request help from Mental Health services during the 10 years following their initial episode.

According to the bibliography consulted, the range of patients recovering to some extent after a first episode ranges from 13% to 53%[13]. Many variables influence this recovery; with childhood adversity, as a risk factor for developing psychosis, being one of them[14, 15].

The influence of childhood adversity on psychosis is not considered in the traditional model of psychosis. The neurobiological model, which maintains the Kraepelinian tradition of a deterministic and neurodegenerative nature[16] and is based on classical studies that confirm genetic influences on the development of schizophrenia[17,18], has for decades been the most supported by international health institutions. In 1916, Wimmer[19] described psychogenic psychoses as secondary to mental trauma. Contrary to Kraepelin, who thought that psychoses of a psychogenic origin appeared only in individuals with a mental predisposition, Wimmer maintained that this is not an indispensable condition for the appearance of psychosis. Current research seems to suggest that traumatic psychogenesis is more common than previously considered.

Recent research confirms that childhood adversity, and specifically violent experiences, is related to serious mental illness[20,21] and specifically psychosis[22]. Indeed, recent research[23] maintains that genetics is capable of explaining only a minimal part of the variance in psychosis. A multicausal range is proposed for the development of psychosis, which includes environmental factors such as cannabis use, adverse childhood experiences (ACE), immigration and belonging to minorities[24].

The meta-analysis by Varese et al.[25] (2012), on the relationship between childhood adversity and the risk of developing psychosis, found the probability of developing psychosis increased significantly after suffering abuse of a sexual (OR = 2.38), physical (OR = 2.95) or emotional (OR = 3.40) nature, intimidation (OR = 2.39) or neglect (OR = 2.90). The study concluded that, if childhood adversity were completely eliminated from the population, the number of people with psychosis would be reduced by 33%. Along the same lines, the meta-analysis by Matheson et al.[26] (2013) included 25 studies where higher rates of childhood adversity were seen in schizophrenia compared to controls (OR = 3.60) and anxiety disorders (OR 2.54). No differences were found in childhood adversity rates between schizophrenia and affective psychosis, depression or personality disorders. The analysis by Karatzias et al.[28] (2019) with Scottish population data shows childhood adversity is very prevalent (79.2%) among psychotic individuals, with physical abuse being the most common adverse experience (40.1%). In 2020, the review by Stanton et al.[27] found similar results.

In light of the increasingly abundant research on the subject, the neurodegenerative hypothesis is giving way to the neurodevelopmental model. In 2010, Morgan and Hutchinson[29] proposed a socio-evolutionary model that integrates social, psychological and neurobiological causes, in that order, in relation to the abundance of evidence linking psychotic symptoms with emigration, urban environments, childhood trauma and adversity. In 2017, Murray et al.[30] proposed a development risk factor model to include all the environmental factors pointed out in recent research.

The genetic hypothesis of schizophrenia is losing ground in the multicausal scale as the epigenetic hypothesis takes hold. According to Blanco-González[31], "the findings of epigenetics have located a dynamic influence of both genetics on behaviour and behaviour on genetics" (page 108). In addition, different studies have observed similar neuroanatomic and functional abnormalities in people exposed to childhood trauma and people with psychosis[32,33,34,35,36,37]. Epigenetics and studies that show how bad experiences can functionally and structurally change the brain have highlighted once again the role that the environment plays[38, 39].

In recent years, the relative importance of different environmental factors upon psychosis, such as cannabis use and childhood trauma, have also begun to be studied[40]. In addition, different studies have not only verified the relationship between ACE and psychosis, but have found a dose-response relationship between the two[41, 42].

This new evidence runs counter to the influence of the past decades, and the neurodegenerative model, which considers that genetic rather than psychological and social factors are the main causes of mental suffering in psychosis. For Lucy Johnstone[43], this set the stage to ignore the meaning and consequences of the trauma. Read, Mosher and Bentall[44] regret that, due in part to the 'trauma denial' of recent years, oral therapy has not been offered to the most seriously ill in many western countries; with the underlying idea that these patients will get no benefit from telling their story or working through their subjective suffering.

The first objective of this research is to verify the existence of a plateau effect in the course of psychosis. It is expected to find significant differences in psychopathology and social deterioration between two groups of psychotic patients receiving treatment in a mental health service: those whose first episode was less than five years ago and those with greater chronicity.

The second objective of our research is to establish a relationship between childhood adversity and the risk of psychotic chronicity, defined as not having passed the critical period.

Along the lines proposed by Frydecka et al.[40], the third objective of this research is to see if the importance of the ACE variable on psychosis decreases when there is an added environmental causal factor, such as substance abuse.

The fourth objective is in line with Johnstone, Read, Mosher and Bentall[43, 44], and is expected to verify the limited access of psychotic patients to oral therapies or a collection of clinical histories that address their adverse childhood experiences.

HYPOTHESES

1. After 5 years since the first psychotic disorder, there will be a significant change in the severity of the symptoms, which will remain constant from then on.

2. The frequency of childhood traumatic events will be higher among people who continue as Mental Health service patients for more than 5 years after their first psychotic event; i.e. those who do not exceed the critical period.

3. The importance of childhood adversity in psychotic chronicity will be less for those who have other risk factors, such as alcohol or substance abuse.

4. A large proportion of patients will not have disclosed their childhood adversity experiences to any Mental Health professional.

METHOD

The sample consisted of 45 people (21 women and 24 men) with at least one psychotic episode in their lifetime, being treated at the Mental Health Services of the San Agustín de Avilés University Hospital (HUSA) between June 2017 and February 2018.

The inclusion criteria were: having had a non-organic psychotic episode and undergoing psychiatric and psychopharmacological treatment at these mental health services. The inclusion criteria were built within the framework of the "psychosis bifactor model" proposed by Reininghaus et al. (2019), which includes the wide range of clinical manifestations understood today as a non-organic psychotic disorder[45]. There are validity problems in the different conceptus of psychosis that become extreme when working with first episode diagnostic imprecision or on the border between non-affective and affective psychosis[46, 47, 48]. We have adopted Reininghaus's dimensional model because of its explanatory and exhaustive capacity

Exclusion criteria were: the existence of cognitive, emotional or other difficulties that prevented or made it difficult to understand the material. Clinically destabilised patients and those who had suffered a psychotic episode within the previous 3 months were excluded.

The inclusion age range was 15-65 years, inclusive. The mean sample age was 40.73 years (SD=11.59), the median was 39 and the age range was 16-59 years.

INSTRUMENTS

Sociodemographic data

A structured interview was conducted in which sociodemographic data such as Age, Occupation and Degree of legally recognised disability were asked.

Measurement of psychopathology

The SCL-90-R Symptom Check List Inventory from L. Derogatis[49,50,51] was administered. This is a multidimensional questionnaire of 90 items developed to evaluate symptom patterns, with nine primary discomfort dimensions: Somatisation, Obsession and compulsion, Interpersonal sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation and Psychoticism. In addition to these 9 dimensions, it calculates a global severity index (GSI) that indicates the degree of general distress and the intensity of psychic and psychosomatic suffering. The items are rated on a scale of 0 to 4 (not at all, a little bit, moderately, quite a bit and extremely). The 9 dimensions are calculated directly from the mean score of the items pertaining to them. The version of the questionnaire, translated, validated and adapted to the Spanish-speaking population, which was used in the present study was that of Professor Casullo[52]. Previous versions of this questionnaire for a Spanish sample obtained adequate reliability and validity, with a Cronbach's alpha of 0.97 in 2012[50].

Measurement of potentially traumatic events in childhood.

The ExpTra-S instrument, built within the framework of the Psychology Faculty of Oviedo University by Dr Ordóñez Camblor[53] was used to measure early traumatic experiences in a clinical population with a diagnosis of Serious Mental Disorder. The level of severity in frequency and discomfort of early traumatic experiences (mild, medium, severe) was measured by the percentiles obtained by the author from the questionnaire in a sample of 114 patients from the Asturias, Cantabria and Catalonia public health services who had suffered at least one psychotic episode. According to the authors, the estimation of reliability yielded an internal consistency level of 0.96, with all discrimination indices being higher than 0.30.

In addition to the frequency (dose) of potentially traumatic childhood events, their typology (quality) was assessed, with physical and psychological abuse, parental alcoholism and sexual abuse being investigated within the ExpTra-S questionnaire itself. In addition, questions about maternal abuse during the interviewee's childhood were added within the framework of our study.

The subjects were also asked if they had told a mental health professional about the ACE before taking this questionnaire. Diagnosis, care regimen, time since the first event and psychotherapeutic and/or pharmacological treatment were also recorded.

PROCEDURE

The research was approved by the Hospital's research committee. Contact with users was carried out through the psychologists and psychiatrists responsible for each patient and the questionnaires were taken after signing informed consent. The confidentiality of the responses was reported at all times, as well as the voluntary nature of participation. No reward was given for participation in the study.

The time since the first psychotic episode, treatment received, care regimen in mental health services and diagnosis were based on a review of medical records.

DATA ANALYSIS

The data analyses performed to investigate the proposed objectives were as follows: first, the normality of the variables was analysed and, second, the statistics were decided according to the variable type.

Assuming a normal distribution for most quantitative variables measured in our sample, we compared means as measures of central tendency with a parametric Student's t test for independent samples, which robustly establishes possible significant differences in Age, Degree of disability, the 9 primary dimensions of the Derogatis SCL90, the General Severity Index (GSI) of the Derogatis SCL90-R, frequency of ACE and the distress they caused.

The chi-squared test was used to compare qualitative variables. The different types of traumatic experiences recorded in the sample (parental alcoholism, child sexual abuse, emotional child abuse, physical child abuse) were recorded in the analysis, as well as the dichotomous variable "Occupation".

In the mean comparison tests, the effect size (r) was calculated using Cohen's d test. In general, the level of significance established was $p \leq 0.05$; with some exceptions indicated with a $p \leq 0.01$.

The data were analysed with the statistical program SPSS Statistics, version 23.0.0.

RESULTS

In our sample (n=45), 36 (80%) patients were diagnosed by the WHO ICD-10[53] as F20-F29 (non-affective psychotic disorders) as follows: 3 with psychotic episodes, 14 with paranoid schizophrenia, 6 with other schizophrenias, 5

with delusional disorders, 4 with schizoaffective disorders and 4 with other psychotic disorders. Of the rest (20%), 8 were diagnosed as bipolar and 1 person with a psychotic depressive episode.

The mean chronicity of the total sample was 12.29 years (SD = 9.908). Of the 45 patients, 16 had been diagnosed for 5 years or less; 7 for 5-10 years; and 22 for more than 10 years. The range of time with the disorder for the last group was 10-34 years (with a mean of 20.54 years and SD=7.676).

Of these patients, 30 had no problems with drugs or alcohol, while 10 declared they had problems with illegal drug abuse and 5 with alcohol.

There were numerous types of potentially traumatic events reported before the age of 16 years: 18 (40.0%) reported psychological abuse; 14 (31.1%) reported physical abuse; parental alcoholism associated with neglect was present in 12 (26.7%) of the subjects; 5 (11.2%) suffered sexual abuse as children; 19 (42.2%) reported abuse (psychological and/or physical) by the father of the mother during their childhood; and 2 (4.4%) reported both parents being violent to each other during their childhood.

The Exptra-S instrument applied to our sample had an internal consistency of 0.856 (Cronbach's alpha); while the measurement of psychopathological dimensions with the SCL90-R, gave an internal consistency result of 0.916 (Cronbach's alpha).

A. Tables 1 and 2 show the results obtained after comparing the study variable means of two samples: those who had their first outbreak 10 or fewer years earlier (n=23) and those for whom this period was longer (n=22).

No significant difference was found either in the frequency of traumatic experiences or in 6 of the 9 SCL90 symptom scales. Only the depression, anxiety and psychoticism dimensions had significant, albeit modest, differences, and were more pronounced in those patients with the longest evolution.

Age and the Degree of disability were significantly higher in the more chronic group. In the nominal variables, once the chi-squared test was applied to compare the groups, there were also no significant differences, except in Occupation, which was significantly greater for the group with an evolution of less than or equal to 10 years. (According to Cochran's criteria for this statistical test, the chi-squared results for Sexual Abuse should be viewed with caution.)

Table 1 | **Student's t test of two groups: more and less than 10 years with the disorder**

	< 10 years		> 10 years		Student's t-test, independent samples		
	Mean	SD	Mean	SD	t	p	r
Age	35,35	11,89	46,36	8,28	-3,62	0,001**	-0,50
Degree of disability	15,26	28,49	50,23	25,94	-4,31	0,000**	-0,55
Somatisation	0,85	0,73	1,04	0,69	-0,90	0,375	-0,13
Obsession and compulsion	1,37	0,92	1,67	0,60	-1,33	0,190	-0,19
Interpersonal sensitivity	1,00	0,77	1,52	0,73	-2,29	0,027*	-0,33
Depression	1,37	1,01	1,99	0,73	-2,39	0,022*	-0,33
Anxiety	1,23	0,88	1,48	0,79	-1,02	0,311	-0,15
Hostility	0,60	0,73	0,57	0,75	0,15	0,882	0,02
Phobic anxiety	0,61	0,90	0,89	0,83	-1,10	0,276	-0,16
Paranoid ideation	1,02	0,91	1,50	0,80	-1,88	0,067	-0,27
Psychoticism	0,73	0,65	1,17	0,77	-2,06	0,046*	-0,29
GSI	0,02	0,02	0,03	0,02	-1,65	0,106	-0,24
ACE frequency	1,00	0,67	1,36	0,58	-1,94	0,059	-0,27
ACE distress	0,91	0,67	1,27	0,63	-1,86	0,070	-0,27

Table 2 Chi-squared test two groups: more and less than 10 years with the disorder

	< 10 years (%)	> 10 years (%)	X^2	p	r
Child sexual abuse	4,3	18,2	2,18	0,140	-0,22
Parental alcoholism	21,7	31,8	0,58	0,445	-0,11
Child physical abuse	26,1	36,4	0,54	0,457	-0,20
Child psychological abuse	39,1	40,9	0,01	0,903	-0,05
Abuse of mother	39,1	45,5	0,18	0,668	-0,06
Occupation	52,2	4,5	12,42	0,000**	0,52

*Significant at 95% confidence level.

**Significant at 99% confidence level.

B. Tables 3 and 4 show the results obtained after comparing the study variable means of two samples: those who had their first episode less than 5 years earlier (n=16) and those for whom this period was longer (n=29) in our services.

In this comparison, again there were significant differences in Degree of disability, Occupation and Age. Also, the frequency of childhood traumatic experiences was significantly higher in the group diagnosed for over 5 years. Declared distress about these experiences shows no significant differences between groups. Student's t test shows significant differences in seven of the nine Derogatis SCL90-R symptom dimensions: somatisation, obsession, interpersonal sensitivity, depression, phobic anxiety, paranoid ideation and psychoticism. All are higher for people who had their first psychotic episode more than five years ago. There were no significant differences in the SCL90-R GSI.

Table 3 Student's t test of two groups: less than 5 years with the disorder and 5 or more years

	< 5 years		≥ 5 years		Student's t-test, independent samples		
	Mean	SD	Mean	SD	t	p	r
Age	33,31	12,34	44,83	8,99	-3,28	0,003**	-0,47
Degree of disability	4,81	16,33	47,55	28,60	-5,49	0,000**	-0,68
Somatisation	0,62	0,70	1,12	0,66	2,33	0,027*	-0,34
Obsession and compulsion	1,07	0,76	1,76	0,69	3,01	0,005**	-0,43
Interpersonal sensitivity	0,85	0,79	1,48	0,70	2,63	0,014*	-0,39
Depression	1,21	0,76	1,93	0,92	2,80	0,008**	-0,39
Anxiety	1,04	0,85	1,52	0,79	1,87	0,071	-0,28
Hostility	0,35	0,49	0,71	0,82	1,84	0,073	-0,26
Phobic anxiety	0,38	0,72	0,95	0,88	2,36	0,023*	-0,33
Paranoid ideation	0,70	0,71	1,56	0,82	3,71	0,001**	-0,49
Psychoticism	0,57	0,64	1,16	0,71	2,85	0,007**	-0,40
GSI	0,02	0,02	0,03	0,02	-1,58	0,125	-0,24
ACE frequency	0,88	0,50	1,34	0,67	-2,45	0,018*	-0,36
ACE distress	0,88	0,62	1,21	0,67	-1,67	0,105	-0,25

Table 4 **Chi-squared test two groups: less than 5 years with the disorder and 5 or more years**

	< 5 years (%)	≥ 5 years (%)	X^2	p	r
Child sexual abuse	0	17,2	3,10	0,078	NaN***
Parental alcoholism	25,0	27,6	0,03	0,851	-0,03
Child physical abuse	25,0	34,5	0,43	0,511	-0,19
Child psychological abuse	31,3	44,8	0,79	0,373	-0,14
Abuse of mother	25	51,7	3,02	0,082	NaN***
Occupation	56,3	13,8	9,05	0,003**	0,43

*Significant at 95% confidence level. **Significant at 99% confidence level. *** Result impossible to calculate

Table 5 **Student's t-test for the item *"feeling you are watched or talked about by others".***

	< 5 years		≥ 5 years		Student's t-test, independent samples		
	Mean	SD	Mean	SD	t	p	r
Item 43	0,81	1,05	1,76	1,45	-2,51	0,016*	-0,35

*Significant at 95% confidence level.

Table 6 **Student's t-test for subsample free of substance abuse (n=30)**

	< 5 years		≥ 5 years		Student's t-test, independent samples		
	Mean	SD	Mean	SD	t	p	r
ACE frequency	0.91	0.539	1.47	0.612	-2.628	0.015*	-0.44

*Significant at 95% confidence level.

	< 10 years		> 10 years		Student's t-test, independent samples		
	Mean	SD	Mean	SD	t	p	r
ACE frequency	1.18	0.728	1.38	0.506	-0.923	0.364	-0.16

Table 7 **Student's t-test for subsample with substance abuse (n=15**

	< 5 years		≥ 5 years		Student's t-test, independent samples		
	Mean	SD	Mean	SD	t	p	r
ACE frequency	0.80	0.447	1.10	0.738	-0.976	0.348	-0.24

*Significant at 95% confidence level.

	< 10 years		> 10 years		Student's t-test, independent samples		
	Mean	SD	Mean	SD	t	p	r
ACE frequency	0.71	0.488	1.25	0.707	-1.724	0.109	-0.41

Item 43 of the SCL90-R in the paranoid ideation dimension, "feeling you are watched or talked about by others", was significantly higher in the more chronic group.

The chi-squared test was used to compare the dichotomous and nominal variables in both groups and found no differences in the different types of traumatic experiences recorded in the sample (parental alcoholism, violence against the mother of the person as a minor, child sexual abuse, emotional child abuse, and physical child abuse).

Also, the ACE frequency at different times of chronicity was compared for a subsample with no history of substance abuse, illegal drugs or alcohol (n=30; 67% of the total sample):

Of the 45 patients, 26 had suffered potentially traumatic events before the age of 16 years, 15 of whom (57.7%) had not previously told a mental health professional, while 11 (42.3%) had done so. The data also show that, of the 29 people spending over 5 years in a programme in our service, 11 (37.9%) received both pharmacological and some type of psychotherapy treatment; while the remaining 18 (62.1%) were treated with drugs only, without psychotherapy. Of the 16 patients spending less than 5 years in our service, 15 (93.8%) were treated pharmacologically and psychotherapeutically, while 1 (6.2%) was treated with drugs only.

CONCLUSIONS

Our first hypothesis was verified for the total sample. After 5 years with the disorder, there was a significant change in the severity of the symptoms, which remained practically stable afterwards. Thus, the psychopathological worsening plateau effect described by Breuler was observed, with the turning point at approximately 5 years.

The second hypothesis proposed, that the frequency of childhood traumatic events is significantly higher among people who have been patients in our services for more than 5 years following their first psychotic episode, was also demonstrated. The significantly greater difference was observed in both the complete sample and in the subsample without substance abuse; however, it was not present in the sample of psychotic patients with drug and alcohol abuse problems. This latter subsample, however, was small so these results must be taken with caution. Nevertheless, it seems to confirm our third hypothesis: the chronicity of toxic substance-related psychoses is independent of ACE, while the chronicity of the rest of the psychoses depends significantly on ACE.

Thus, we can conclude from our results that the frequency of adverse experiences in childhood is related to the chronicity of the disorder after suffering a first psychotic outbreak, when a 5-year period is specified as the criterion for chronicity. No significant relationships were observed between chronicity and the type of adverse event (chronicity quality), but a relationship was observed between chronicity and dose (chronicity quantity).

Given that the presence of trauma seems to be a determining factor in chronicity when there is no drug abuse, we suggest every first episode programme must have a protocol for detecting childhood adversity, such as a trauma-informed approach[55], to establish the population at higher risk of chronicity and design appropriate secondary prevention interventions [56, 57].

The study confirmed our fourth hypothesis, since less than half of the patients in our sample had reported their childhood trauma to a mental health professional beforehand, and only 37.9% of the chronic patients were receiving some type of psychotherapy. Our results invite a study of the mechanisms that link childhood adversity and chronicity in order to develop effective psychotherapy interventions to prevent chronicity[58].

The main limitation of the study was the small sample size; thus, there is a need to expand these investigations into larger groups.

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