BIRTH SEASONALITY IN FIRST EPISODE PSYCHOSIS

A. Toll Privat [1, 2, 3], A. Mané Santacana [1, 2, 3], D. Bergé Baquero [1, 2, 3], A. Pamla Conesa [1, 2,], V. Pérez Solà [1, 2, 3]

[1] Institut de Neuropsiquiatria I Addiccions, Hospital del Mar, PSMar
[2] Institut Hospital del Mar d'Investigacions Mèdiques (IMIM), Barcelona, Spain
[3] Centro de Investigación Biomédica en Red de Salud Mental

INTRODUCTION

Schizophrenia is a clinically heterogeneous disorder associated with different risks factors and different clinical features, as the relationship between birth seasonality and deficit/non – deficit syndrome [1]. Winter birth was first reported to be a risk factor for schizophrenia in 1929, and there have been many replications of this association in different sites. Clinical characteristics that have been associated with winter birth include paranoid subtype and a more benign course of illness, although these have not always been found [2]. On the other hand, a summer birth excess in patients with deficit schizophrenia has also been found in several studies [3].

AIMS

Understand which baseline characteristics (age of onset, duration of untreated psychosis, substance use, diagnosis) and clinical outcomes differ between first episode psychosis patients in relation their season of birth.

METHODS

One hundred seventy - five first episode psychosis patients were consecutively admitted to Hospital del Mar since January 2008 to September 2014 and entered the first episode programme of the institution. The included evaluation were, among others: sociodemographic data, duration of untreated psychosis (DUP), diagnosis, substance use, the Positive and Negative Symptoms Scale (PANSS) and the global assessment functioning scale (GAF) at baseline and 1 year follow–up.
We studied differences in age, duration of untreated psychosis, diagnosis, substance use, GAF scores and PANSS subscale scores at baseline and 1 year follow – up between first episode psychosis patients that had born in summer or in winter. We used the Chi-Square test for categorical data and t – Student test to compare the means for continuous data.

RESULTS

In our first episode psychosis sample, we did not find significant differences between winter and summer birth patients in gender, age of onset, diagnosis or substance use. However, we did find a significant lower duration of untreated psychosis (DUP) in patients that had born in winter in relation patients that had born in summer (p = 0,045).
Moreover, we did not find any significant differences in PANSS and GAF scores at baseline or 1 year follow–up between two birth periods.

Table 1. Sociodemographic and clinical characteristics of first episode psychosis.

	Autumn/winter	Summer/Spring	X2	T Student	p
Gender (%men)	60,5	57,4	0,167		0,683
Age (m, ds)	25,64 (4,966)	24,68 (5,044)		1,266	0,207
DUP (m, ds)	70,05 (120,157)	137,55 (237,618)		-2,021	0,045*
Diagnosis (%)			11,32		0,079
Schizophreniform	24,7	21,3			
Psychosis nos	55,6	42,6			
Schizophrenia	3,7	9,6			
Brief psychotic disorder	8,6	10,6			
Affective psychosis	3,7	12,8			
Induced psychosis	3,7	1,1			
Delusional disorder	0	2,1			
Tobacco use (%)	51,9	57,4	0,55		0,543
Tobacco per day (m, ds)	7,52 (9,699)	9,13 (9,902)		-1,082	0,281
Cannabis use (%)	54,3	47,9	0,724		0,449
* For week (m, ds)	9,36 820,014)	10,28 (22,853)		-0,281	0,779
Alcohol use (%)	56,8	60,6	0,266		0,646
Cocaine use (%)	18,5	18,1	0,005		0,547
GAF basal (m, ds)	29,17 (10,026)	30,48 (11,622)		-0,706	0,481
PANSS P basal (m, ds)	26,32 (6,876)	25,67 (6,225)		0,571	0,569
PANSS N basal (m, ds)	16,63 (6,279)	16,20 (7,068)		0,37	0,712
PANSS PG basal (m, ds)	43,67 (10,604)	42,77 (10,980)		0,477	0,634
PANSS T basal (m, ds)	85,95 (25,426)	83,70 (18,417)		0,556	0,579
GAF 1 year (m, ds)	66,61 (19,589)	69,15 (15,804)		-0,628	0,532
PANSS P 1 year (m, ds)	10,39 (6,786)	9,86 (4,473)		0,379	0,706
PANSS N 1 year (m, ds)	14,61 (7,242)	13,66 (5,258)		0,618	0,539
PANSS PG 1 year (m, ds)	27,19 (11,176)	25,91 (8,361)		0,53	0,598
PANSS T 1 year (m, ds)	53,16 (23,194)	49,46 (16,096)		0,761	0,45

CONCLUSIONS

Our results don't support the concept of a double dissociation in deficit vs nondeficit schizophrenia and the risk factor of season of birth, with the deficit group associated with summer birth and the nondeficit group with winter birth [1, 3].
The only difference that we find is a shorter duration of untreated psychosis (DUP) in winter birth group, this result could be in agreement in other studies that shows a more benign course of illness in patients born in winter [2]. Nevertheless, more studies should be done to clarify this issues, so the results of some recent studies are so heterogeneous.

REFERENCES

1. Tek C, Kirkpatrick B, Kelly C, McCreadie RG. Summer birth and deficit schizophrenia in Nithsdale, Scotland. J Nerv Ment Dis. 2001;189:613-617.
2. Messias E, Kirkpatrick B. Summer birth and deficit schizophrenia in the Epidemiologic Catchment Area study. J Nerv Ment Dis. 2001;189:608-612.
3. Kirkpatrick B, Castle D, Murray RM, Carpenter WT Jr. Risk factors for the deficit syndrome of schizophrenia. Schizophr Bull. 2000;26:233-242.

The authors declare thay do not have any conflict of interest.

INAD Institut de Neuropsiquiatria i Addiccions
Parc de Salut MAR Barcelona