SCHIZOPHRENIA AND SEASON OF BIRTH

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SUMMARY

A comparison with respect to the season of birth in 380 schizophrenic patients with 685 control subjects revealed an excess of winter births in the former by 6.1%.

The stress literature in schizophrenia reflects the choice made by the researchers in the field. They have studied and rated events that tend to be externally caused and that are usually experienced as unpleasant and undesirable.

A 15% excess above the expectation was found in winter birth in the Philippines, an equatorial region (Parker et al., 1977).

As compared with controls, the schizophrenics show an excess (about 8%) of winter births and a smaller excess (about 4%) of spring births. The excess of winter births in schizophrenics has been reported from Scandinavian countries (Odegard, 1974; Videbech et al., 1974), England and Wales (Hare, 1975), United States (Torrey et al., 1977, Pulver et al., 1981), Japan (Shimura, et al., 1977), and Australia (Parker et al., 1976). No strong evidence from a similar birth pattern was found in patients with manic depressive psychosis.

The notion of seasonal variation among Australian-born schizophrenics as compared with other psychiatric diagnoses was not supported. In fact statistically non-significant trend was towards the summer and the autumn, contrary to northern hemisphere studies which were towards winter and spring. It was suggested that this failure to obtain seasonal variations in birth could be due to less marked climatic differences between the Australian seasons (Krupinski et al., 1976).

Keeping in mind the above controversies the authors of the present study planned to find out the status of seasonality of birth in schizophrenics compared with normal control group in India.

MATERIAL AND METHODS

Patients attending the Out-patient department at the Central Institute of Psychiatry, Ranchi whose dates of birth were definitely known and were provisionally diagnosed as schizophrenia were taken as an experimental group. Their diagnoses were further confirmed by the authors using ICD-9 criteria. Patients with a history of drug abuse, dependence, and concurrent medical illnesses (e.g. Hypertension, Diabetes etc.) and a diagnosis of schizoaffective illness were excluded.

The control group was obtained by interviewing the guardians of the patients attending the OPD at C.I.P. Ranchi whose dates of birth were definitely known. Individuals with a history of psychiatric illness were excluded.

The authors have obtained a homogeneous sample. In both the groups the subjects born in the northern districts of Bihar (including West Champaran, East Champaran, Sitamadi, Mathubani, Saharasa, Purnia, Gopal Ganj, Muzaffarpur, Dharbhanga, Madhepura, Katihar, Sivan, Saran, 1. Senior Residents, Central Institute of Psychiatry, Kanke, Ranchi-834 006.
Vaishali, Samastipur, Khagaria, Bhojpur, Patna, Rohtas, Jahanabad, Nalanda, Munger, Bhagalpur, Godadda, and Sahibganj) were selected. This geographical belt experiences a similar climatic condition. In this way the participants of our study had experienced a homogeneous climatic condition at the time of birth in the particular calendar month of the year.

RESULTS

In this study finally 380 schizophrenic patients and 685 control subjects fulfilled the required criteria. 74% of schizophrenics and 62% of control subjects belong to the younger age group, i.e. in the range of 20-34 years. Majority of them were male i.e. 74% and 76% for schizophrenics and control subjects respectively.

Broadly we can divide the seasons into three groups i.e. Winter (November to February), Summer (March to June), and Monsoon (July to October). We found a statistically non-significant excess of winter birth (by 6.1%) in schizophrenics as compared to the control group as shown in Table ($X^2 = 4.45$, d.f. = 2, N.S.).

| Season of birth | Schizophrenics ($N=380$) | Control ($N=685$) |
|-----------------|--------------------------|-------------------|
| Winter          | 158 (41.6%)              | 243 (35.5%)       |
| Summer          | 92 (24.2%)               | 197 (28.8%)       |
| Monsoon         | 130 (34.2%)              | 245 (35.7%)       |

$X^2 = 4.45$, d.f. = 2, N.S.

DISCUSSION

The etiology of schizophrenia is a debatable topic. Most of the literature point towards an excess of winter birth in a geographical area where the climatic differences are more marked. Our study also supported a similar trend. We have found a statistically insignificant excess of winter births in schizophrenics as compared to control group by 6.1%. As such this difference had reached to a level of statistical significance only in few studies.

It is suggested that studies taking general population as control group should be undertaken. It may also be worthwhile to study the difference in the incidence of schizophrenia in different geographical areas where winter predominates (e.g. Jammu and Kashmir, and Himachal Pradesh) and to compare it with other geographical belts.

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