

DEPRESSION AND SEASON RELATIONSHIP

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ABSTRACT

Depression is a common psychiatric disorder characterized by a number of signs and symptoms which may include depressed mood, anhedonia, insomnia, weight loss, low energy, anorexia, difficulty in concentration, and suicidal thought. This study is a case-control clinical trial on 83 patients as the control group and 83 persons as the cases. The collected data were analyzed by SPSS and chi square. 8.5% of patients with depression had past history of viral disease in prenatal period, 32.5% of patients with depression were born on the summer and 16.9% were born on the winter but this difference was not significant. There was different prevalence in season of birth of patients (more on the summer than winter) but statistically not significant.

INTRODUCTION

Depression is a common psychiatric disorder characterized by a number of signs and symptoms which may include depressed mood, anhedonia, insomnia, weight loss, low energy, anorexia, difficulty in concentration, and suicidal thought. The lifetime prevalence of the condition in the general population is reported to be 10%–15%, but in women has been reported to be up to 25% [1–3]. Depression is much more common in women, occurring in a ratio of 2:1, and is the leading cause of disease-related disability in women [4, 5]. Mental health patterns in Iran are similar to those in other countries, but it seems that the prevalence of mental health disorders in Iran is lower than reported elsewhere. A review of the literatures showed a prevalence rate for depression of 4.29% in Iran [6, 7].

The etiology of depression is unknown but some factors are related for example: biologic factors, genetic factors, environmental factors and etc (one factor may be season of birth).

Fountoulakis et al reported the depressed patients as a whole did not show differences in birth season from controls. However, those patients born during the spring manifested higher HDRS (Hamilton depression rating scale) while those born during the summer manifested the lowest HAS (Hamilton anxiety scale) scores. DST (dexamethasone suppression test) non-suppressors were almost exclusively (90%) likely to be born during autumn and winter. No effect from the season of birth was found concerning the current severity of suicidal ideation or attempt [8].

National series of psychiatric inpatients studied in Scandinavian countries and in England and Wales have all shown that compared with live births in the general population, schizophrenic patients have a significant excess of births in the early months of the year. But there has been disagreement on whether a similar birth distribution holds for manic-depression. This research presents new data on the seasonal distribution of births of patients born in England and Wales between 1921 and 1955. Compared with all live births, manic-depression was associated with a significant excess of births in the first quarter, and a corresponding deficiency in the third quarter of the year. Neurotic depression showed no such association [9].

The season of birth influences the risk of schizophrenia, bipolar affective disorder and recurrent depressive disorder in England to a similar extent as other countries and suggests that at least a proportion of psychiatric disease could be prevented by ameliorating the risk factors responsible for these intriguing epidemiological observations [10].

Birth rates of people who later kill themselves show disproportionate excess for April, May and June compared with the other months. Overall, we found an increase of 17% in the risk of suicide for people born in the peak month ;spring-early summer; compared with those born in the trough month; autumn-early winter; this risk increase was larger for women (29.6%) than for men (13.7%) [11].

A significant decrease of births from March to July and an excess from August to November in OCD (obsessive compulsive) disorder patients as compared to the general population was noted, the relative risk of these months vs. the rest months of the year: 0.85 and 1.19. Effects of SOB (season of birth) in OCD were present in males but not in females. The findings support an effect of SOB in people with OCD, especially for men [12].

Humans born in winter months appear to have a higher risk for neurological disorders such as seasonal affective disorder, bipolar depression and schizophrenia [13].

KEY WORDS

Depression, season of birth, general population

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The slight seasonal variation in PPD (post-partum disorder) in our pilot study was not statistically significant [14].

Therefor some study showed there was a relation between some psychiatry disorder and season and our study was done about relation between season and depression.

METHODS AND MATERIALS

This study is a case-control clinical trial carried out in Shahid Mofeteh Clinic of Yasuj city in the South of Iran, 83 patients as the control group and 83 persons as the cases.

The patients with major depression were selected by psychiatrist and refer to researcher for this study. Demographic questionnaire (including seasonal birth), Beck depression rating scale and Hamilton rating scale were field for patients.

Inclusion criteria were being aged 15–60 years and a diagnosis of major depressive disorder on the basis of an interview, the Beck depression rating scale and Hamilton rating scale. Patients were excluded if they had received any antidepressant drug previously, had criteria for grief, adjustment disorder, and major depressive disorder with psychotic features, had concomitant axis II or III disorder and a history of bipolar disorder, or schizophrenia. Patients were excluded if they had alcohol abuse, substance abuse, cancer or any somatic disease, use of any antihyperlipidemic drugs and Women were excluded if they were pregnant or breast-feeding. This research was approved by the ethics committee and vice chancellor for research at Yasuj University of Medical Sciences. Patients were informed about the survey and written consent was obtained from all participants or their legal guardians.

The Beck depression inventory was used because it has been localized and validated for Iran. It also has appropriate reliability and validity (15 and 16).

For the Beck depression inventory, a score >10 was considered to be depression, within 10–19 scored as mild, 20–29 as moderate, 30–39 as partially severe, and >40 as severe depression (17 and 18).

Every participant had a score ≥20 (moderate to severe depression) of Beck depression rating scale completed Hamilton rating scale.

For Hamilton rating scale, a score of 0–7 is generally accepted to be within the normal range (or in clinical remission), while a score of 20 or higher (indicating at least moderate severity) is usually required for entry into a clinical trial (19 and 20).

The patients with Hamilton score ≥20 were selected.

The final results were supervised by psychiatrist.

The 83 persons were selected randomly in general population as control group, and Beck depression rating scale and Hamilton rating scale was field for patients and they were also visited by psychiatrist to determined not having psychological problem.

The cases were the same as control group by age, sex, weight, height and BMI (body mass index), marriage and educational level.

The collected data were analyzed by SPSS and chi square for comparing of mean of data.

RESULTS

There were approximately equal numbers of men and women in both treatment groups (22 men and 61 women in each group), and the age was between 20 and 40 years old, so the most was between 20 and 30. There was no significant difference between the two groups with regard to basic demographic data including age, gender, and educational level [Tables 1].

There was no significant difference between the two groups for mean Beck depression test scores before intervention [Table 1].

Depression was more between married than single(%71.1 to %26.5), low education more than high education(%36.1 to %8.5), female more than male(%73.4 to %26.6), unemployment more than high manager(%79.5 to %0.0) [Table 1].

8.5% of patients with depression had past history of viral disease in prenatal period, but there was no past history of viral disease in normal population at prenatal period [Table 1].

32.5% of patients with depression were born on the summer (the most) and 16.9% were born on the winter (the least) but this difference was not significant [Table 2].

Table 1: Variable index in patients and normal population

Index	normal No.(Percent)	Depression No.(Percent)	Total No.(Percent)
Male	22(%26.6)	22(%26.6)	44(%26.5)
Female	61(%73.4)	61(%73.4)	122(%73.4)
Single	22(%26.5)	22(%26.5)	44(%26.5)
Married	59(%71/1)	59(%71/1)	118(%71.1)
Widowed	2(%2.4)	2(%2.4)	4(%2.4)
Illiterate	10(%12)	10(%12)	20(%12)
Up to 5 class	30(%36.1)	30(%31.6)	60(%36.1)

From 6-8 class	18(%21.7)	18(%21.7)	36(%21.7)
From 9-12 class	18(%21.7)	18(%21.7)	36(%21.7)
Student of University	7(%8.5)	7(%8.5)	14(%8.5)
Unemployed	67(%80.7)	66(%79.5)	133(%80.1)
Farmer or non skill worker	3(%3.6)	4(%4.8)	7(%4.2)
Staff	8(%9.6)	10(%12)	18(%10.8)
Manager	0(%0)	0(%0)	0(%0)
Shopkeeper	5(%6.1)	3(%3.7)	8(%4.9)
History of Viral disease	0(%0)	7(%8.5)	7(%4.2)

Table 2: Depression and birth season

Index	Normal No.(Percent)	Depression No.(Percent)	Total No.(Percent)
Spring	21(%25)	19(%23)	40(%24)
Summer	23(%28)	25(%30)	48(%29)
Autumn	22(%27)	21(%25)	43(%26)
Winter	17(%20)	18(%22)	35(%21)
Total	83(%100)	83(%100)	166(%100)

X²=1.6 DF=3 P=0.64

DISCUSSION

Depression was more between female than male, married more than single, low education more than high education, unemployment more than manager. 8.5% of patients with depression had past history of viral disease in prenatal period, but there was no past history of viral disease in normal population at prenatal period. 32.5% of patients with depression were born on the summer (the most) and 16.9% were born on the winter (the least) but this difference was not significant.

Fountoulakis et al. reported; those patients born during the spring manifested higher HDRS while those born during the summer manifested the lowest HAS scores. Depressed patients as a whole did not show differences in birth season from controls. No effect from the season of birth was found concerning the current severity of suicidal ideation or attempts. In our research there was past history of viral disease and the depressed patients were born on the summer more than winter but statistically not significant.

Hare we reported the schizophrenic patients have a significant excess of births in the early months of the year and the manic-depression was associated with a significant excess of births in the first quarter and the neurotic depression showed no such association. Our research was about depression and the same as we report.

Disanto et al reported; at least a proportion of psychiatric disease could be prevented by ameliorating the risk factor/s, the same as our research that 8.5% of patients with depression had past history of viral disease in prenatal period.

Salib et al reported; an increase risk of suicide for people born in the peak month (spring-early summer) compared with those born in the trough month (autumn-early winter); this risk increase was larger for women than for men. In our research depressed patients were born on the summer more than winter but not significant.

Cheng et al reported; a significant decrease of births from March to July and an excess from August to November in OCD (an effect of SOB in people with OCD, especially for men). In our research depressed patients were born on the summer more than winter and some patients with depression had past history of viral disease in prenatal period.

Mark reported; humans born in winter months appear to have a higher risk for neurological disorders such as seasonal affective disorder, bipolar depression and schizophrenia. In our research depressed patients were born on the summer more than winter and some patients with depression had past history of viral disease in prenatal period.

Panthangi et al reported; the slight seasonal variation in PPD was not statistically significant, the same as our research that the depressed patients were born on the summer more than winter but not significant.

CONCLUSION

There was different prevalence in season of birth of patients (more on the summer than winter) but statistically not significant.

CONFLICT OF INTEREST

There is no conflict of interest.

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FINANCIAL DISCLOSURE

None

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