

Sociodemographic Features and Treatments of Pregnant Psychiatric Inpatients in an University Hospital: a Retrospective Chart Review

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ABSTRACT

Sociodemographic features and treatments of pregnant psychiatric inpatients in an university hospital: a retrospective chart review

Objective: In this study, the sociodemographic characteristics of and treatment methods applied to pregnant inpatients were investigated.

Method: Forty three inpatients, have been included to the study. The sociodemographic data, diagnoses and applied treatments as well as the individual treatment response information were extracted, sorted out and analysed.

Results: Diagnosis for nearly half of the women was psychotic disorder (44.2%;19/43). Patients with the diagnosis of a psychotic disorder had been hospitalized longer than the patients with a diagnosis of anxiety and somatoform disorder were. Thirty four of 43 patients (79%) have had psychiatric disorders before pregnancy. Haloperidol was the most frequently used psychotropic drug for the treatment of psychotic disorders and bipolar manic episodes. In 26% of patients, delivery was carried out through cesarean section during hospitalization.

Conclusions: In conclusion, it was found that a significant portion of pregnant inpatients have been suffering from a psychiatric disorder before conception. The remarkable ratio of deliveries, which happened during the hospitalization in psychiatry clinics and lack of medically complicated babies, show that the psychiatry services, beyond treatment of psychiatric illnesses, could serve as a secure place for expected mothers and babies prenatally.

Key words: Pregnancy, psychiatry, treatment

ÖZET

Bir üniversite kliniğinde yatarak tedavi edilen gebe psikiyatri hastalarının sosyodemografik özellikleri ve uygulanan tedaviler: Geriye dönük dosya taraması

Amaç: Bu çalışmada yatarak tedavi gören gebe hastaların sosyodemografik özelliklerini ve tedavileri için yapılan uygulamaları ortaya koymak amaçlanmıştır.

Yöntem: Çalışmaya servisimizde yatarak tedavi gören 43 hasta dâhil edilmiştir. Sosyodemografik veriler, tanılar ve uygulamalı tedaviler ile tekil tedaviye yanıt bilgileri edinip tasnif edilerek incelenmiştir.

Bulgular: Yatarak tedavi gören gebelerin yaklaşık yansının tanısı psikotik bozukluktu (%44.2;19/43). Psikotik bozukluk tanısı alan hastalar anksiyete-somatoform bozukluk tanısı alan gruba göre daha uzun süre hastanede yatmışlardır. Kırk üç hastadan 34'ünün (%79) gebelikten önce bir psikiyatrik hastalığı vardı. Haloperidol, psikotik bozukluk ve bipolar manik epizodu olanlarda en çok kullanılmış psikotropiktir. Hastaların %26'sının doğumu servisimizde yatarak sezeryan ile gerçekleşmiştir.

Sonuç: Sonuç olarak, yatarak takip edilen gebe hastaların önemli bir kısmının gebelikten önce bir psikiyatrik hastalığı olduğu görülmüştür. yatarak tedavi alan hastaların anlamlı bir bölümünün psikiyatri kliniklerinde doğum yaptığı ve yenidoğanlarda tıbben komplikasyon olmadığı dikkate alındığında, psikiyatri servislerinin psikiyatrik hastalığı tedavi etmenin ötesinde anne adayları ve doğacak bebekleri için güvenli bir yer olduğu görülmektedir.

Anahtar kelimeler: Gebelik, psikiyatri, tedavi



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INTRODUCTION

For clinicians, management of psychiatric illnesses occurring or blazing up during gestation is usually difficult. The selected pharmacotherapy might harm the fetus or save both the expected mother and the fetus from serious dangers. Numerous hormonal and psychosocial changes take place in the course of conception (1). Moreover, the reproductive age between 18-45 years is the period for many serious psychiatric diseases to occur. The onset of a psychiatric illness is likely to occur during pregnancy. Sometimes, an existing mental illness may aggravate. The leading cause of aggravation is to cease the ongoing treatment. Physicians, patients and caregivers are getting an exaggerated perception about the potential teratogenic adverse effects of the medications whereas they underestimate the negative impact of the illness that likely to occur in case of lack of treatment (2). Therefore, patients under preventive treatment usually stop using their medications right after recognizing their pregnancy.

There are potential adverse effects of pharmacotherapy on the fetus as well as the negative effects of the untreated psychiatric illness to the newborn, in both the short and the long term. The data revealing the association between the untreated depression during pregnancy and the neurodevelopmental disorders of the newborn has been growing (3). Hypercortisolemia and hyperthyroxinemia comorbid to gestational depression are considered liable for such developmental breakdowns. These impairments can be reversed or treated by using antidepressants (4).

The prevalence of schizophrenia and bipolar disorder during gestation is lower than that of depression. However, it has been shown that these disorders, if seen during conception, could lead to serious problems for both the mother and the child (5). Especially the newborns of the schizophrenic mothers have been reported to have a higher prevalence of low birth weight and cardiac anomalies (6). An effective psychiatric intervention is important, at least to reduce the risks faced by the baby and the mother.

We observe that the number of pregnant cases referred to our clinic for hospitalization has been growing in recent years. Despite we find many papers about the psychiatric diseases and their treatments in the literature, publications about the clinical experience regarding the hospitalized psychiatry patients during gestation is relatively few. There are only two studies in this field, in Turkey, where the majority of the hospitalized patients is reported to be a mood disorder case (7-8).

In this study, we aimed to display the sociodemographic features of the pregnant inpatients as well as the applied treatments.

METHOD

Hospital records of pregnant inpatients, who stayed in the psychiatry clinics of Ondokuz Mayıs University between 1994 and 2013, were searched retrospectively. Records of 43 pregnant inpatients were detected. The sociodemographic data, diagnoses at admission and discharge and applied treatments as well as the individual treatment response information were extracted and recorded in a premeditated form. Extracted records were compared for diagnosis and existence before pregnancy. Only discharge diagnoses were referred for analyses and classified in three groups for comparison: Schizophrenia and other psychotic disorders, mood disorders and anxiety & somatoform disorders. For patients with multiple hospitalizations in the course of a gestational period, only the data of the first hospitalization was assessed.

SPSS for Windows 15.0 software was used for assessment. Non-parametric analyses were carried out because of limited size of groups. Chi-square test for the comparison of grouped data, Mann-Whitney U test for comparison of mean numeric variables of two groups, Kruskal Wallis test for comparison of mean numeric variables of three or more groups and Bonferroni-corrected Mann-Whitney U test for binary comparison of groups with detected difference are used. Significance was justified with $p < (0.05/3) = 0.016$ for Bonferroni-corrected Mann-Whitney U test and $p < 0.05$ for other tests.

RESULTS

Records of 43 pregnant inpatients were detected. The patients were 17-40 years old with a mean age of 27.58 ± 6.48 years and mean hospitalization time of 28.21 ± 27.91 days. Thirty seven (86%) cases were jobless. The mean period of education was 8.19 ± 3.40 years. Twenty three cases had no child, nine had one and two had three children. Fourty two patients were married and one has got divorced.

As indicated in the records of 43 patients, the preliminary diagnosis for 22 was psychotic disorder, while 14 had been somatoform disorder and 3 cases were suffering from anxiety disorder. Three patients with the preliminary diagnosis of psychotic disorder were discharged with the diagnosis of somatoform disorder (1 case) and anxiety disorder (2 cases). At the discharge, 19 (44%) had the diagnosis of psychotic disorder (2 delusional disorder and 17 schizophrenia),

14 had mood disorders (8 bipolar disorder and 6 depression), 5 had somatoform disorder and 5 has anxiety disorder.

Psychotic disorder patients were hospitalized in the 2nd and 3rd trimesters, mood disorder patients in the 1st trimester, anxiety disorder cases in the 2nd trimester and somatoform disorder patients in the 1st and 2nd trimesters. The highest ratio of patients under medication was in the psychotic disorder group (14/17) and the lowest was in somatoform disorder group (0/5) (Table 1).

Of those psychotic disorder cases, four had 2 hospitalizations and one had 3 hospitalizations during the same gestational period whereas four mood disorders cases had two. None of the anxiety and somatoform disorder patients had more than one hospitalization during the same gestational period. There was no statistically significant difference in terms of age, existence of a psychiatric disorder before

Table 1: Distribution of patients in terms of hospitalization trimesters with corresponding medication use (number of medicated patients is in brackets)

	Psychotic disorders	Mood disorders	Anxiety	Somatoform disorders
First Trimester	3 (2)	9 (5)	-	2 (-)
Second Trimester	7 (5)	1 (-)	5 (3)	3 (-)
Third Trimester	7 (7)	4 (4)	-	-
Total*	17 (14)	14 (9)	5 (3)	5 (-)

*Two patients were excluded due to unknown trimester of hospitalization

Table 2: Sociodemographic characteristics based on diagnosis

	Psychotic disorders		Mood disorders		Anxiety-somatoform disorders		Analysis	p
	n	%	n	%	n	%		
Preconceptional disease								
Present	15	78.9	11	78.6	8	80.0	$\chi^2=0.008$	0.996
Absent	4	21.1	3	21.4	2	20.0		
Age (Mean±SD)	28.4±5.4		26.6±6.4		27.4±8.7		KW=0.490	0.780
Child								
Present	8	42.1	9	64.3	6	60.0	$\chi^2=1.816$	0.403
Absent	11	57.9	5	35.7	4	40.0		
Hospitalization trimester** ,***								
1	3	16.7	8	61.5	2	20.0		
2	8	44.4	1	7.7	8	80.0		
3	7	38.9	4	30.8	-			
Duration of hospitalization - day (Mean±SD)	38.9±28.3		18.9±19.6		20.9±32.3		KW=8.091	0.018*

SD: Standard deviation, χ^2 : Chi square, KW: Kruskal Wallis, *p<0.05: statistically significant, **Two patients were excluded due to unknown trimester of hospitalization, ***p value cannot be calculated because the requirement of having no "zero" in any cell for Chi Square analysis was not met; only ratios were given

gestation and existence of a child before gestation, when discharge diagnoses are compared.

A statistically significant difference between groups' duration of hospitalization was there. In binary comparisons, the statistically significance was due to the difference between groups of psychotic disorders and somatoform disorders, in terms of duration of hospitalization ($p=0.018$). Psychotic disorders group's duration of hospitalization was more than that of somatoform disorders group (Table 2).

Thirty-four patients (79%) out of 43 had a psychiatric illness before getting pregnant. There was no statistically significant difference between the groups "ill before gestation" and "not ill before gestation" in terms of duration of hospitalization, existence of a child before illness and the conception period with hospitalization. Those who were mentally ill before gestation was older than those who were not ($p=0.017$). The cases who received a diagnosis before gestation had stayed significantly longer than those who did not ($p=0.07$) (Table 3). Out of those who had

a psychiatric disorder, 6 (18%) have been using a medication before hospitalization, whereas 28 (82%) has not been. In patients who had been hospitalized under medication, 2 had depression and 4 had psychotic disorder (Table 3).

In 19 psychotic disorder patients, 16 used an antipsychotic medication and 2 had drug switch due to lack of efficacy. Eighteen antipsychotic treatments had been applied to 16 patients (haloperidol 1.5-10mg/day for 11 cases; olanzapine 5-10mg/day for 4; quetiapine 600mg/day for 1; risperidone 4mg/day for 1 and clozapine 200mg/day for 1). The mean equivalent chlorpromazine dose of the applied antipsychotics was 389mg/day. At the discharge, distribution of patients in terms of the clinical status for each drug was as follows: 7 partial remissions, 3 full remissions and 1 no-remission under haloperidol; 2 partial remissions, 1 full remission and 1 no-remission under olanzapine; all patients with partial remission under clozapine, quetiapine and risperidone and 2 partial remissions under no use of medication (Table 4). Medications were switched in

Table 3: Relationship between preconceptional disease and hospitalization characteristics

	Preconceptional disease				Analysis	p
	Present		Absent			
Mean age (year; Mean±SD)	28.7±6.2		23.2±6.0		MU=74.0	0.017*
Duration of hospitalization - day (Mean±SD)	31.5±29.5		15.7±16.8		MU=92.5	0.07
		n	%	n	%	
Child						
Present	16	47.1	4	44.4	$\chi^2=0.889$	0.595
Absent	18	52.9	5	55.6		
Hospitalization trimester**					$\chi^2=0.644$	0.881
1	9	28.1	4	44.4		
2	13	40.6	3	33.3		
3	10	31.3	2	22.2		

SD: Standard deviation χ^2 :Chi square, MU: Mann-Whitney U, * $p<0.05$: statistical significance, **Two patients were excluded due to unknown trimester of hospitalization

Table 4: Dose ranges for antipsychotics and treatment responses

	Dose range	Treatment response			Total
		Recovery	Partial	No recovery	
Haloperidol	1.5-10mg/day	3	7	1	11
Olanzapine	5-30mg/day	2	1	1	4
Quetiapine	600mg/day	1	-	-	1
Risperidone	4mg/day	1	-	-	1
Clozapine	200mg/day	-	1	-	1

two patients due to lack of efficacy (quetiapine replaced with clozapine in one and risperidone with olanzapine in another). In three patients, adjuvant benzodiazepine treatment was applied (clonazepam for two cases and lorazepam for one). Biperidene was added in two cases to treat EPS out of 18 antipsychotic treatment procedures.

Out of 14 mood disorders patients, 8 were under follow up for the diagnosis of bipolar manic episode and 6 for depression. Three patients with depressive disorder were given antidepressants (maprotiline 112.5mg/day; sertraline 50mg/day and clomipramine 50mg/day). 6 patients out of 8 bipolar manic episode were given a psychotropic medication (lithium 1200mg/day for 1 case and haloperidol 2.5-7.5mg/day for 5). The patient who was under lithium was also given quetiapine and lorazepam.

Five patients received the diagnosis of conversion disorder and none of them was medicated but given psychoeducation about management of interpersonal relations and conflicts; and discharged with full recovery.

Three patients had the diagnosis of obsessive-compulsive disorder (OCD) and two had generalized anxiety disorder (GAD). Two OCD and one GAD cases, which were started taking sertraline 50mg/day, were given diazepam (one OCD and one GAD) or mirtazapine (one OCD). Two OCD patients and one GAD patients had partial remission while one OCD and one GAD patients had full remission during discharge.

Non-medicated pregnant patients (3 psychotic, 3 depressive, 2 bipolar manic, 1 OCD, 1 GAD and 5 conversion disorder) were kept under observation, rehabilitation activities and supportive interviews in the ward.

Out of three mood disorder cases (two bipolar manic and one major depression) and two psychotic disorder patients (5 in total), who received electroconvulsive treatment (6-10 session - ECT), two had full remission and three had partial remission. ECT was indicated due to lack of efficacy of pharmacotherapy or severity of illness. One psychotic disorder patient and one bipolar manic case had full remission with ECT.

ECT was applied in all patients as they are on pharmacotherapy and none of the cases needed additional medication. Four patients were immobilized during ECT. ECT was indicated due to lack of efficacy of pharmacotherapy. Two patients received ECT during the 2nd and 3rd trimesters, two had in the 2nd and one had in the 3rd. All patients were oxygenated (2 liters/min) before anesthesia induced by propofol 2mg/kg and succinylcholine 1mg/kg. No fetal complication was observed during the obstetric and gynecological examinations.

Two psychotic disorder patients and three bipolar manic episode patients (5 cases in total) were immobilized during ECT. Out of those, four had a preconceptional mental illness and quitted medication for pregnancy. One patient had "first episode" psychotic disorder. In consideration of the mean duration of hospitalization of 28 days, those patients stayed in the clinic rather long (45-60 days); 5 of them were given a psychotropic agent and all of them were started an additional medication. Four immobilized patients (two psychotic and 2 bipolar manic) went under ECT.

Eleven patients, out of 43 cases who were included in our study, delivered her babies during their stay in the psychiatry ward. All deliveries were caesarean and none of the newborns had a medical complication.

DISCUSSION

The majority of the patients (44%) who were hospitalized in our clinics had the diagnosis of psychotic disorder. Psychotic disorder was followed by bipolar manic episode disorder, major depressive disorder, anxiety disorder and conversion disorder. In both of the two previously published studies conducted in Gaziantep University and Karaelmas University, biggest group of the hospitalized pregnant cases is stated as mood disorders whereas the smallest group was psychotic disorders (7,8). There might be two reasons for the difference in the distribution of diagnoses between those healthcare settings: first, our clinics is the last station of our territory to refer the pregnant patients who suffers from depressive disorders, while being followed up by other healthcare settings such as state

hospitals or training and research hospitals. Second, the psychiatrists of our clinics have a predisposition to follow up the pregnant patients with the diagnosis of depressive disorder as an outpatient.

In our study, we recorded that the duration of treatment of pregnant patients who had anxiety or conversion is shorter than that of psychotic disorder cases. Especially the conversion disorder patient may be in need of being hospitalized as they fail to tolerate the interrelational difficulties in their social environment. Fixing such problems is possible with a detailed diagnostic assessment and psychoeducation. Observing a shorter duration of hospitalization for these patients therefore, is anticipated.

“Ill before gestation” cases were older than those who received the first diagnosis during gestation. Due to hormonal and psychosocial reasons, gestation is reported to be a favorable ground for the onset of psychiatric disorders (1). Two factors might be explaining the fact that the patients who received her first diagnosis during gestation when they are quite young: first, gestation is an inducer of the primary psychiatric disorder and the mental illness becomes manifest during pregnancy in some patients. Second, the mean age of pregnancy is quite low in our country. The majority of inpatients (79%) have had a psychiatric disorder before preconceptionally and non-medicated during admission (82%). Moreover, 4 out of five immobilized patients were those, who had ceased their pharmacotherapy for being pregnant. It is reported that the termination of antipsychotic use might increase the recurrence risk 3-4 folds in schizophrenia (10) and the abrupt cease of mood stabilizer use could lead to recurrence in bipolar disorder (11). As the untreated psychosis has been shown to bring serious risks on fetus (12), it is not advisable to quit using antipsychotics during the gestation in schizophrenic patients. However, lack of an antipsychotic that is fully safe for fetus makes it difficult to weigh the risk-benefit ratio and initiate an antipsychotic treatment during gestation. Frequent assessment of outpatients and joint decision with the family in consideration of up-to-date pharmacotherapeutic knowledge seem to be important

for the prevention of recurrence and rehospitalizations, respectively.

In our study, the mean equivalent chlorpromazine dose of the administered antipsychotics was 389mg/day. Among antipsychotic users, only three patients were given benzodiazepines as an adjuvant. American Academy of Obstetrics and Gynecology recommends administering only one type of drug at a sufficient dose, to pregnant psychiatric patients, as far as possible (13). Taking into account that the optimal antipsychotic dose of chlorpromazine is 300-600mg (9), the mean applied dose of antipsychotics appears to be reasonable, in our study. Besides, the relatively low number of patients (three) who needed additional medications and lack of patients who were under dual antipsychotic treatment reveal that the general principles have substantially been followed by our clinic for antipsychotic treatment of pregnant patients.

Haloperidol is the most frequently used antipsychotic in pregnant patients. In two Turkish studies that are similar to ours, haloperidol is reported to be the most frequently used antipsychotic (7,8). Clinicians are known to prefer the most experienced drug to cope with the obscurity of teratogenicity, as far as possible. Hence, the wide use of haloperidol is an expected situation.

According to the searched records, 3 mood disorder cases (two bipolar manic and one major depression) and two psychotic disorder patients (5 in total), received electro-convulsive treatment (6-10 session – ECT), ECT was applied in all patients as they are on pharmacotherapy and none of the cases needed additional medication. Four patients out of 5 were immobilized during ECT. ECT was indicated due to lack of efficacy of pharmacotherapy. When compared with other studies (7,8), in our clinics, the number of ECTs is relatively low and ECT has practically been preferred only for deleteriously progressing cases.

The relatively long duration of hospitalization of five immobilized patients who had quitted using their medication for being pregnant demonstrates the importance of controlled use of psychotropic agents in pregnancy for the health of the mother and the baby.

The remarkable ratio of deliveries (26%), which happened during the hospitalization in our clinics and lack of medically complicated babies, show that the

psychiatry services, beyond treatment of psychiatric illnesses, could serve as a secure place expected mothers and babies prenatally.

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