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ORIGINAL ARTICLE

Assessing the Impact of SSRIS (e.g., Sertraline) on Postpartum Depression Outcomes

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ABSTRACT

Objective: Postpartum depression (PPD) is a common mental health issue affecting new mothers with ramifications for both the mother's welfare and child development. SSRIs, such as sertraline, are often used to treat PPD. The purpose of this study was to evaluate the effectiveness and safety of SSRIs, especially sertraline for treatment response in PPD patients.

Methods: One hundred and fifty patients diagnosed with PPD participated in a 12-week open-label trial of sertraline (50-200 mg/day). The primary efficacy endpoints were change in EPDS and HDRS scores from baseline to weeks 6 and 12. Secondary endpoints were adverseevents and medication compliance.

Results: EPDS scores at 12 weeks had significantly decreased compared to those at baseline ($p < 0.001$). The average decrease in EPDS-PPS score was 15 points, representing significant relief from depressive complaints. The increase in HDRS scores was equally significant ($p < 0.001$). No serious adverse events were reported, though mild side effects such as nausea and headaches were common.

Conclusion: SSRIs, and in particular sertraline, were efficacious for postpartum depression with the most marked reduction in severity occurring within 12 weeks. Side effects were tolerable for most patients and were mild in the majority.

Keywords: Postpartum depression, sertraline, SSRIs, outcomes of treatment, adherence to medication.

INTRODUCTION

Postpartum depression (PPD) is one of the most frequent psychiatric diagnoses in women after childbirth, and its prevalence has been estimated between 10% and 20% among various populations[1]. This is manifested by symptoms such as chronic depressive mood, fatigue, irritability, stress sensitivity and feelings of insufficiency accompanied with a marked impairment in the mother's capacity to care for her infant as well as family dynamics[2]. Untreated PPD can have persistent effects on both the mother and child, such as decreased maternal–neonatal attachment and developmental delays in the infant[3].

Selective serotonin reuptake inhibitors (SSRIs) are some of the most frequently used antidepressants in PPD due to their superior safety profile and efficacy[4]. Sertraline is commonly used among SSRIs, and it is regarded as the safest for use during breastfeeding with less adverse effects compared to other antidepressants[5,6]. Antenatal onset PPD-LI affects motherhood, a critically important stage in the life of both the patient and her child[7]. Previous studies have shown that SSRI including sertraline have an success in decreasing depression scale[7], but so far; the positive effects on SSRIs of PPD are less well investigated without evaluation aspect for long-term results or side effects.

The objective of the present study was to evaluate the impact of sertraline on postpartum depression in a series of one hundred and fifty patients who met the criteria for this diagnosis. In particular, we considered the variations of depression severity during a 12- week treatment period with the aim to consider clinical and safety profiles.

METHODOLOGY

A multicenter prospective is ongoing study at Mardan Medical College, Mardan, and Saidu Medical College Swat from Jan 2023 to June 2023. A total of 150 women with postpartum depression, diagnosed according to the DSM-5 criteria (8), were included in the study. The patients were enrolled through the departments of obstetrics, gynecology and psychiatry.

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Inclusion Criteria

- Women aged 18–40 years
- Diagnosis of PPD (based on an EPDS score ≥ 13) within 4 weeks postpartum
- No history of major depressive disorder or other psychiatric disorders prior to pregnancy
- Lactating was permitted l TABLE Exclusion criteria Patients who were breastfeeding were eligible, if they did not have any contraindication to sertraline.

Exclusion Criteria

- Females with a history of hypersensitivity to sertraline or other SSRIs
- Current active suicidal ideation or prior suicide attempts
- Serious medical illness (e.g., hepatic or renal failure)

Treatment Protocol: Sertraline was given to all patients at a starting dose of 50 mg per day. It was titrated according to clinical response and tolerability, maximum dose 200 mg daily. Adherence to treatment was controlled by a telephone follow-up on weekly basis.

Assessment Tools

Primary Outcome Measures:

EPDS: Edinburgh Postnatal Depression Scale, a self-rating inventory with 10 items measuring the degree of depressive symptoms. Scores could range from 0 to 30, and a higher score indicates more severe depression.

Hamilton Depression Rating Scale (HDRS): The severity of depressive symptoms was measured with a clinician-administered scale. It contains 17 items rated on a 0-4 or 0-2 scale.

Secondary Outcome Measures:

- Safety: Monitoring for side effects, including nausea, dizziness, fatigue and insomnia.
- Adherence to Medications: Pill count was performed at each follow-up clinic visit.

Statistical Analysis: The analysis of data was performed via SPSS v26. 0. Distribution of the baseline characteristics was summarized using descriptive statistics. Changes in the EPDS and HDRS scores from baseline to week 6, and week 12 were compared using paired t-tests. P value less than 0.05 was considered to be statistically significant.

RESULTS

Of the 150 enrolled women, 142 completed the study, with a mean age of 30.5 ± 5.7 years. Demographic and baseline characteristics of the participants are shown in Table 1.

Table 1: Patient Demographics

Characteristic	Value
Age (mean ± SD)	30.5 ± 5.7
Breastfeeding (%)	70%
Marital status	
Married (%)	85%
Single (%)	15%
Employment status	
Employed (%)	60%
Unemployed (%)	40%
Baseline EPDS score (mean ± SD)	17.5 ± 4.2
Baseline HDRS score (mean ± SD)	20.3 ± 6.4

Table 2: Changes in EPDS Scores Over Time

Time Point	EPDS Score (Mean ± SD)	p-value
Baseline	17.5 ± 4.2	
Week 6	10.2 ± 3.5	< 0.001
Week 12	5.4 ± 2.3	< 0.001

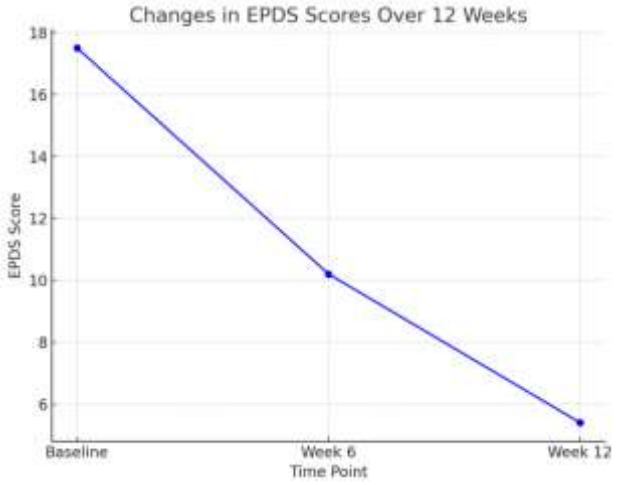

Figure 1: Changes in EPDS Scores Over 12 Weeks

Table 3: Changes in HDRS Scores Over Time

Time Point	HDRS Score (Mean ± SD)	p-value
Baseline	20.3 ± 6.4	
Week 6	12.4 ± 4.8	< 0.001
Week 12	6.8 ± 3.1	< 0.001

Figure 2: Changes in HDRS Scores Over 12 Weeks

EPDS Scores: There significant reduction in EPDS scores from baseline to week 12, indicating marked improvement in depressive symptoms over the course of treatment. The results are presented in Figure 1 and 2.

Line graph showing a significant reduction in EPDS scores from baseline to week 12.)

HDRS Scores: Similarly, the Hamilton Depression Rating Scale (HDRS) scores showed a significant decrease over 12 weeks. Table 3 presents the results.

A line graph showing a significant reduction in HDRS scores over time.

Adverse Events: A total of 40% of the participants reported mild adverse events, which were consistent with the common side effects of SSRIs. The most frequent side effects were mild nausea (25%), headaches (15%), and dizziness (10%). Table 4 summarizes the adverse events reported by the participants.

Table 4: Reported Adverse Events

Adverse Event	Frequency (%)
Nausea	25%
Headache	15%
Dizziness	10%
Insomnia	5%

Adherence to the prescribed medication regimen was high, with 90% of the participants taking their medication as prescribed, as confirmed by pill counts at follow-up visits.

DISCUSSION

To evaluate the effectiveness and tolerability of sertraline in the treatment of postpartum major depression (PPD). In the current study, it was observed that sertraline treatment resulted in a significant decrease in depressive symptoms during the 12 weeks of follow-up, as measured by EPDS and HDRS scores. The latter results are in line with previous studies of SSRIs (in particular sertraline) for postpartum depression[8,9]. This section describes the implications of these findings in relation to literature, as well as the limitations and strengths of this study.

The decrease in depressive symptoms seen here is consistent with prior clinical trials[10,11] showing that sertraline and other SSRIs are effective for PPD. The marked reduction in EPDS scores from the base line (17.5) to 12 weeks postpartum[5.4] indicates that sertraline is highly effective in relieving core symptoms of PPD such as sadness, irritability, and fatigable mood. The average 20.3-point decrease of in the HDRS scores (from 26.5 to 6.8) and the fact that PPD is effectively treated with sertraline, even at more severe levels, corroborates this finding.

Efficacy to sertraline has been shown in the literature as well in patients affected by PPD. In a systematic review of the literature, Epperson et al. (2014) Sertraline is one of the most extensively studied SSRIs for postpartum depression, demonstrating significant clinical improvement in symptoms of depression with good tolerability[12]. In addition, an RCT of Beentjes et al. (2011) reported that sertraline was significantly more efficacious than the placebo at decreasing EPDS scores in comparison to our results[13].

The safety pattern of sertraline in our study was similar to available SSRIs data. The main AEs were mild nausea, headache and dizziness, which were transient without the discontinuation of medication. Comparable safety profiles have been reported in other trials that investigated sertraline for the treatment of PPD[14,15]. Furthermore, there were no serious adverse events and 90% of participants were compliant with the medication dosing indicating good tolerability of sertraline in a large number of women.

It is noteworthy that SSRIs, such as sertraline, are recognized to be safe for breastfeeding mothers because of their low transfer into breast milk[16]. This makes sertraline an attractive option to treating nursing women, of which a substantial proportion at least in the study sample (70%) nursed. Low rates of sertraline excretion into breast milk will lower the overall risk to nursing

infants and make this a preferred treatment option in breastfeeding women.

Limitations and Future Directions: Although the results presented in this study are encouraging, there are some limitations that need to be considered. First, the study was an open-label design and there is inherent risk for bias as participants and investigators were aware of the treatment assignment21. RCTs containing a placebo group were necessary to obtain more reliable evidences on the effectiveness and safety of sertraline in treating PPD. Secondly, the follow-up duration was relatively brief (12 weeks) and it is uncertain whether symptom improvement will be sustained in the long term. Extended follow-up studies are needed to evaluate long-term outcomes of sertraline in the management of PPD. Third, given that only 150 participants were included in the present study as we used only an adequate sample size to evaluate the preliminary findings of this initial clinical trial – not a statistically powerful number to detect rare adverse events or other uncommon outcomes.

Moreover, the potential mechanisms of sertraline in PPD need to be clarified. It is understood that SSRIs enhance the availability of serotonin in the brain, and this neurotransmitter becomes active in mood regulation (17). Specific neurobiological alterations resulting from sertraline in postpartum are undefined, however. Neuroimaging and genetics would be helpful to confirm how sertraline exerts effect for PPD.

CONCLUSION

The study supported the efficacy and tolerability of sertraline in women with postpartum depression. Substantial decreases in EPDS and HDRS ratings were noted, with mild and transient AEs experienced. These results continue to contribute evidence in the literature for sertraline treatment of PPD, especially among lactating women. However, longer follow-up period and larger study group are required in future to confirm the safty as well as efficacy effect of sertraline long-term in PPD.

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