

RECENT ADVANCES IN ENDOCRINOLOGY

Postpartum Depression and DiabetesPawan Sharma¹, Sanjay Kalra², Yatan Pal Singh Balhara³**Abstract**

Depression and diabetes share a bidirectional causal association. Additionally, during the postpartum period women have an increased vulnerability for both depression and impaired glucose tolerance. The impact of the comorbidity of diabetes and postpartum depression is also bidirectional with an impaired course and outcome of both these disorders. The clinic visits for pregnancy and/or diabetes care offer important opportunity to screen for postpartum (as well as prepartum) depression. Screening tools that are shorter, that take less time and acceptable are recommended. While a limited number of guidelines on management of depression among persons with diabetes have commented on management of the postpartum depression, the emphasis is on timely intervention using pharmacological and psycho-social interventions. There is a need to develop a collaborative approach involving various stakeholders to effectively manage postpartum depression and diabetes.

Keywords: Antidepressants, breast feeding, depression, pregnancy.

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Introduction

Gestational diabetes mellitus (GDM) is one of the most common endocrinopathies during pregnancy which affects around 7–10% of all pregnancies worldwide.¹ The prevalence of postpartum depression (PPD) as per a meta-analysis of 58 studies was reported to be 17% (95% CI 0.15–0.20).² In general population, diabetes and depression are highly co-morbid and depression is twice as frequent in people with diabetes compared with those without diabetes.³ During the period of pregnancy and postpartum women have an increased vulnerability for both depression and impaired glucose tolerance.⁴ A meta-analysis of 18 studies with a sample size of 2,370,958 showed that GDM significantly increased the risk of postpartum depression (RR = 1.59 (95% CI: 1.22–2.07, $p=0.001$)).⁵ Another meta-analysis of 10 cohort studies with a total population of around 2 million also showed that the women with

gestational diabetes compared with those without it had a significantly increased risk of developing postpartum depressive symptoms (pooled RR=1.32, 95% CI: 1.09–1.60).⁶

Diabetes distress can predispose the pregnant female to postpartum depression.⁷ The possible mechanisms for this association include the disturbance of the hypothalamic–pituitary–adrenal axis, inflammatory changes, problems in serotonergic regulation, the effects of hyperinsulinaemia on the thyroid and the psychological distress caused in treatment of chronic disease.⁵ Additionally, postpartum depression can impair the ability to engage in desired lifestyle changes and hence increasing the risk of diabetes and interfere with its management.⁸

Pathophysiology

Depression and diabetes share a bidirectional causal association. This association can be attributed to biochemical changes (including neuro-endocrinal changes such as hypercortisolaemia, leptin activity in limbic system, altered glucose transportation, pro-inflammatory cytokines) associated with diabetes or its treatment, psychological factors (such as diabetes distress, poor treatment adherence), and behavioural factors (sedentary lifestyles, smoking, use of other psychoactive substances such as alcohol and overeating).

Clinical and Social Impact

The impact of the comorbidity of diabetes and postpartum depression is also bidirectional. While poor control and inadequate management of diabetes can contribute to the increased risk of postpartum depression, the postpartum depression can impact the glycaemic control and outcome of diabetes by interfering with self-care, poor nutrition, poor therapeutic adherence, lower prenatal care seeking. Additionally, it is expected to have negative short- and long-term effects on maternal health and their children.⁹ Numerous studies have demonstrated that untreated PPD increases the risk of alcohol and other psychoactive substance use, social relationship issues, breastfeeding problem or persistent depression in mothers.^{10–12} In children it affects the weight, overall health, infant sleep, motor, cognitive, social, emotional and language development.^{9–13} It also interferes with the childcare and lead to poorer maternal-foetal bonding. Moreover, emergence of depression in diabetes is also associated with increased complications, mortality rates, and healthcare

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Box-1: Questions that are asked as part of different screening tools for depression.

- Feeling down, depressed, or hopeless?
- Little interest or pleasure in doing things?
- Feeling tired or having little energy?
- Feeling bad about self?
- Being anxious or worried or scared or panicky for no good reason?
- Blamed self unnecessarily when things went wrong?
- Trouble concentrating on things?
- Moving or speaking slowly?
- Thoughts that one would be better off dead?
- Thoughts of hurting self?
- Disturbances of sleep?
- Disturbances of appetite?

costs.^{14,15}

Screening

It is important to detect the postpartum depression at the earliest.¹⁶ The clinic visits for pregnancy and/ or diabetes care offer important opportunity to screen for postpartum (as well as prepartum) depression. Studies have revealed that acceptability and willingness to screen is good at well child clinic visits where paediatricians could also play an important role in screening PPD.¹⁷ Different screening tools are available that can be used for this purpose. Edinburgh Postpartum Depression Scale (EPDS) is one of the most commonly used tools for this purpose. Other instruments such as Postpartum Depression Screening Scale (PDSS), Pregnancy Risk Questionnaire (PRQ), Beck Depression Inventory-II (BDI-II), General Health Questionnaire-12 (GHQ-12), Centre for Epidemiological Studies Depression Scale, (CES-D), and the Patient Health Questionnaire (versions 2, 8, and 9) can also be used.¹⁶ The EPDS, GHQ, PHQ have been translated and validated in Urdu language. There are screening tools that were developed primarily in Urdu language. These include Aga Khan University Anxiety and Depression Scale (AKUADS), Pakistan Anxiety and Depression Questionnaire (PADQ), and Siddiqui-Shah Depression Scale (SSDS). Also, EPDS and PHQ have been translated in other languages from the South Asia. Box-1 provides a list of examples of questions that are included in such questionnaires. Screening tools that are shorter, that take less time and acceptable are recommended.¹⁸ While screening is the important first step in early detection of postpartum depression, it is imperative to establish a referral mechanism whereby those who screen positive can be referred for further assessment and intervention.

Diagnosis

The diagnosis of postpartum depression is arrived at following a detailed history and mental status examination. Both American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-

5) and The International Statistical Classification of Diseases and Related Health Problems, 10th revision (ICD-10) have specified criteria for diagnosis postpartum depression. The DSM 5 has defined postpartum depression as a specifier for major depressive episode (with peripartum onset) if onset of mood symptoms occurs during pregnancy or within 4 weeks following delivery.¹⁹ The ICD-10 recommends use of the category 'mental and behavioural disorders associated with the puerperium, not elsewhere classified' for depressive features that have an onset within six weeks post-partum.²⁰ The ICD- 10 states that this category should be used to classify those depressive features that do not meet the criteria for disorders classified elsewhere in this book (such as depressive episode), either because insufficient information is available, or because it is considered that special additional clinical features are present which make classification elsewhere inappropriate.

The lack of consensus on time frame of onset of depressive features is reflected in wide range from four weeks after childbirth to 12 months after child birth described in peer reviewed literature.²¹ Also, the symptom profile may at times be different like presence of more symptoms suggestive of emotional lability, mental confusion, anxiety/insecurity, agitation/restlessness and impaired concentration/decision-making.^{22,23} The conditions that need to be ruled out while considering a diagnosis of postpartum depression are postpartum blues, postpartum psychosis, bipolar affective disorders I and II, adjustment disorder and diabetes distress.¹⁵ Postpartum depression might be comorbid with anxiety spectrum disorders and substance abuse as well.²⁴

While the diagnostic criteria for PPD as specified in the diagnostic systems are applicable cross culturally, the socio- cultural factors can influence the presentation of the condition. Research has suggested that the mood and emotional disturbances in the Asian cultures can present as physical signs and symptoms. Also, the various cultural practices and societal beliefs following childbirth can either be protective (e.g. involvement of other family members in care of women and the new born) or increase the risk (e.g. undue restrictions on interaction of the mother with others, criticism in case a girl child is born when there is a societal preference for a male child) of PPD.

Management

A limited number of guidelines on management of depression among persons with diabetes have commented on management of the postpartum depression. These guidelines have emphasized the importance of screening and connecting the patient to a mental health expert.^{25,26} The consensus statement

published by the American Diabetes Association had recommended screening for depression before and during pregnancy in women with pre-existing diabetes. This consensus statement specified that the management plan should be adjusted in this group of females and recommended the use of structured psychotherapy as first-line treatment for mild depression.²⁷ The other guideline from Asia emphasizes the role of psycho-social interventions in addition to the pharmacological interventions in management of diabetes during pregnancy. Evidence supports use of pharmacological interventions, mainly selective serotonin reuptake inhibitors (SSRIs), as an important component in management of moderate or severe postpartum depression.²⁸ However, the treating clinician should be cognizant of the fact that tricyclic antidepressants (TCAs), selective serotonin reuptake inhibitors (SSRIs), selective serotonin, and norepinephrine reuptake inhibitors, serotonin modulators can impact the glycaemic control.²⁹ Also, the factors such as excretion in breast milk should be considered while selecting the medication. The diabetes care professional should also establish referral and linkage channels in case the situation warrants a consultation with a mental health expert. Some of the indications for immediate referral include suicidal thought or behaviour, possibility of harming the infant, significant inter-personal discord, presence of psychotic features, poor response to the initial treatment and poor psycho-social support.

Prevention

Additionally, good antenatal care coupled with effective management of diabetes during the pregnancy has shown to have a protective effect against emergence of postpartum depression. A large randomized controlled trial among 1000 women with gestational diabetes that investigated the effects of gestational diabetes treatment in the form of dietary advice, glucose monitoring, and insulin therapy on pregnancy outcomes showed a decreased incidence of postpartum depression.³⁰ Hence, the supportive psychosocial care should be integrated with collaborative, patient-centred medical care in persons with diabetes.³¹ There are promising interventions like provision of intensive, professionally-based postpartum home visits, telephone-based peer support, and interpersonal psychotherapy that have been evaluated for prevention of postpartum depression.³²

Role of family

Traditionally, in the Asian cultures the family has played a proactive role by offering care and support during pregnancy and after childbirth. Despite the changes in the living arrangements (especially in the cities), the family system continues to be a crucial support during this period.

The care and support extended by spouse, parents, siblings and the rest of the extended family can be important as it can be protective against the PPD. However, in order for it to be effective it is important that it is perceived as desirable by the mother. Also, there is a need to address the cultural and traditional beliefs and practices that can be counterproductive. The family should aim to support and facilitate the process without undermining the capacity of the mother during the postpartum period. Additionally, given the fact that the faith healers continue to be one of the avenues of help seeking, there is an opportunity to leverage on this resource by involving them as a source of referral to the health care providers for mental health problems.

The way forward

Both diabetes during pregnancy and postpartum depression are growing public health concerns as reflected in the increase in prevalence of this co-morbidity.^{33,34} Given the medical challenges posed by the postpartum depression among women with diabetes, the healthcare professionals need more specific guidance on management strategies for such patients. There is a need to develop a collaborative approach involving primary care physicians, nurses and specialists (obstetricians, endocrinologists, mental health professionals) that is patient orientated. There is a need to scale up evidence-based, cost-efficient and sustainable interventions that are targeted at both prevention and treatment of postpartum depression among women with diabetes. Better policies and programmes should address both service and demand side barrier.

The national and regional professional bodies should constitute working groups comprised of various stakeholders including obstetricians, endocrinologists, psychiatrists, psychologists, neonatologist, paediatricians, family physicians, general practitioners, patient and care giver representatives and others to draft the SOPs and management guidelines that are locally applicable. Apart from this, greater awareness regarding depression should be created among clinicians who treat women with diabetes which will allow for better planning and management of postpartum (and prepartum) depression.³⁵

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