

Reproductive Health Implications of Chronic Diseases and their Treatment: A Narrative Review

Rehana Shaikh¹, Tejasvitaa Ravilla Sridhar², Preksha Shah¹, Chiraag Ashokkumar^{1*} and Salyl Dobhal¹,

¹Spartan Health Sciences University, Vieux Fort, Saint Lucia

²Rajarajeswari Medical College and Hospital, Bengaluru, India

Corresponding Author*

Chiraag Ashokkumar

Spartan Health Sciences University, Vieux Fort

Saint Lucia

E-mail:chiraag21ashok@gmail.com

Copyright: ©2023 Kumar C. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Received: 31-July-2023, Manuscript No. heor-23-108602; **Editor assigned:** 3-August-2023, Pre-QC No. heor-23-108602 (PQ); **Reviewed:** 14-August-2023, QC No. heor-23-108602 (Q); **Revised:** 20-August-2023, Manuscript No. heor-23-108602 (R); **Published:** 25-August-2023, DOI:10.4172/heor.23.9 (4).036

Abstract

Reproductive health is profoundly influenced by chronic diseases, impacting pregnancy outcomes. This research examines the effects of psychiatric disorders, celiac disease, gestational diabetes, Crohn's disease, ulcerative colitis, and autoimmune hepatitis on reproductive health and pregnancy outcomes. Psychiatric disorders increase pregnancy-related risks, including placental abnormalities and neonatal maladaptation. The benefits of antipsychotic use during pregnancy outweigh the risks, but further evidence is needed to inform guidelines. Celiac disease, an autoimmune disorder triggered by gluten consumption, is associated with gynecological and obstetric disorders. Untreated celiac disease can lead to reproductive complications such as delayed menarche, earlier menopause, secondary amenorrhea, and spontaneous abortions. Strict adherence to a gluten-free diet mitigates these issues, emphasizing the importance of treatment. The relationship between gestational diabetes and stillbirth rates is debated. Modern obstetric care has reduced stillbirth risk, but the extent of gestational diabetes' contribution remains unclear. Further research is necessary for comprehensive understanding. Inflammatory bowel diseases, including Crohn's disease and ulcerative colitis, pose risks to pregnancy outcomes. Previous studies found higher rates of preterm delivery, low birth weight, and congenital malformations among mothers with these conditions. This study aims to provide comprehensive and reliable information on pregnancy outcomes in inflammatory bowel disease. Autoimmune hepatitis, primarily affecting young women, raises concerns during pregnancy due to cirrhosis and hormonal dysfunction. Stillbirths and premature births can occur, but the incidence of congenital malformations is not significantly increased. Careful management and monitoring are essential. This research contributes to understanding how chronic diseases affect reproductive health. Further research is needed to elucidate mechanisms and develop evidence-based guidelines. Improved knowledge will enhance reproductive health outcomes for individuals with chronic diseases.

Keywords: Psychiatric disorders • Celiac disease • Gestational diabetes • Crohn's disease • Ulcerative colitis • Autoimmune hepatitis • Reproductive health • Pregnancy outcomes

Introduction

Reproductive health is affected by chronic diseases, which can significantly impact pregnancy outcomes. This study explores the effects of various chronic conditions, including psychiatric disorders, celiac disease, gestational diabetes, Crohn's disease, ulcerative colitis, and autoimmune hepatitis on reproductive health and pregnancy outcomes.

Psychiatric disorders increase pregnancy-related risks, including placental abnormalities and neonatal maladaptation. The benefits of antipsychotic use during pregnancy are believed to outweigh the risks, but more evidence is needed [1].

Celiac disease is associated with gynecological and obstetric disorders. Untreated disease leads to reproductive complications, but adherence to a gluten-free diet can mitigate these issues [2]. The association between gestational diabetes and stillbirth rates is debated, requiring further research for clarification [3].

Inflammatory bowel diseases pose risks to pregnancy outcomes, but previous studies have limitations. This study aims to provide comprehensive information on pregnancy outcomes in mothers with these conditions. Autoimmune hepatitis raises concerns during pregnancy, but the incidence of congenital malformations appears to be low. Careful treatment and monitoring are necessary [4, 5].

This research examines the impact of chronic diseases on reproductive health to improve outcomes through appropriate treatment and care.

Literature Review

Psychiatrist illnesses

Maternal psychiatric illness, schizophrenia, anxiety and depressive disorder leads to high-risk pregnancies with complications, such as placental abnormalities, fetal distress, and poor neonatal adaptation. The benefits of antipsychotic drugs during pregnancy are thought to outweigh the risks, although guidelines rely on expert opinions rather than solid scientific evidence. A recent population-based study examined the impact of psychiatric illness on adverse pregnancy outcomes [6-8].

Coeliac disease

The prevalence and relationship between gynecological and obstetric disorders in women with coeliac sprue are not fully understood. This study aimed to determine the occurrence of these problems in coeliac disease patients and the impact of strict gluten restriction, The influence of pregnancy on the course of coeliac disease, and The clinical features of patients who developed coeliac disease during pregnancy and the postpartum period. It is well-established that periconceptual multivitamin supplementation, particularly folic acid, protects against Neural Tube Defects (NTDs). Coeliac disease, the most common cause of malabsorption in Western European adults, is often associated with folic acid deficiency. Serological screenings were conducted, along with biopsy confirmation when necessary to investigate the prevalence of coeliac disease among women with a history of NTD-affected pregnancies [9-11].

Gestational diabetes

The link between stillbirth and pre-existing diabetes during pregnancy is a subject of debate. If there is an increase in stillbirth cases, it might indicate the risks associated with untreated gestational diabetes. After the onset of

diabetes, modern obstetric care has generally reduced the risk of stillbirth. However, the remaining level of risk is not well understood. This study aimed to compare the rates of stillbirth before and after the onset of diabetes with the rates in the general population to shed light on this matter [12,13].

Crohn's disease and ulcerative colitis

Previous research has shown an increased risk of low birth weight and preterm delivery among mothers with IBD, but the available studies had limitations in sample size or study design. By analyzing statewide data, this study aimed to provide more comprehensive and reliable information on pregnancy outcomes, including low birth weight, preterm delivery, smallness for gestational age, congenital malformations, and cesarean section rates, in mothers with IBD [14].

Autoimmune hepatitis

Autoimmune Hepatitis (AIH) is a chronic disease with unclear causes, commonly affecting young women. Pregnancy in AIH patients raises concerns due to the presence of cirrhosis and hormonal dysfunction, but the threat to the patient or fetus is not well-defined. Studies suggest that while stillbirths and premature births can occur, the incidence of congenital malformations does not seem to be increased. Liver tests improve during pregnancy but flares are observed after delivery, indicating the need for careful management [15-17].

Methodology

This research focused on significant topics such as chronic ailments, the reproductive system, pregnancy, psychiatric disorders, diabetes, coeliac disease, ulcerative colitis, and schizophrenia. To ensure comprehensive results, advanced technology, including AI, was employed in searching databases such as Google Scholar and PubMed.

Throughout the study, certain terms like anemia, kidney disorders, and nutritional deficiencies were intentionally omitted from the research scope. The compilation of data for this review involved the utilization of highly acclaimed research papers, which were widely recognized and cited in the scientific community.

A retrospective analysis was conducted on delivery records from 1988 to 2005 at a medical center in Israel. A comparison was made between pregnant women with and without psychiatric illness, analyzing factors such as maternal age, obstetric information, labor and delivery details, adverse events, birth weight, and neonatal outcomes, with the database validated for accuracy and another study. A matched, control cohort study was carried out using the general practice research database, women with psychotic disorder who gave birth in 1996-1998 were compared with women who matched with age and general practice, 199 cases and 787 controls with their infants [18-20].

The gynecologic and obstetric history of 130 coeliac patients and 130 age-matched healthy female controls were compared in a case-control study. Another study invited patients (patient of celiac disease with an NTD pregnancy) from Belfast City Hospital to participate in a study on coeliac disease, obtaining written informed consent and conducting blood tests for immunoglobulin levels and endomysial antibodies. Patients with positive results or low IgA levels underwent gastroscopy for jejunal biopsy [21].

A study aimed to investigate this association in a contemporary population with access to modern obstetric care using the UK General Practice Research Database, aiming to provide population based data on stillbirth rates in both pre-diabetic and post-diabetic pregnancies. This cross-sectional retrospective study utilized computerized birth records in Washington State to compare gestational age, birth weight, and congenital malformations between infants born to mothers with Crohn's disease or ulcerative colitis and mothers without inflammatory bowel disease [22, 23].

A study monitored 14 pregnancies in a group of patients with autoimmune chronic Hepatitis (AIH) and autoimmune sclerosing cholangitis (overlap AIH-PSC), observing their outcomes and maternal-fetal health during the gestational period [24, 25].

Result

The study was conducted with 181,479 deliveries, found that women with psychiatric illness had higher rates of obstetric risk factors, interventions,

and adverse pregnancy outcomes, psychiatric illness in pregnancy was identified as an independent risk factor for fetal malformations and perinatal mortality, even when controlling for other factors such as maternal age and pre-gestational diabetes. Perinatal mortality was associated with schizophrenia, congenital malformation with anxiety, low Apgar score was seen in depressive disorders.

Untreated coeliac disease patients had delayed menarche, earlier menopause, higher prevalence of secondary amenorrhea, increased spontaneous abortions, and clinical deterioration during pregnancy, while patients adhering to a gluten-free diet had gynecological and obstetric outcomes similar to controls, suggesting the importance of treatment in mitigating reproductive complications associated with coeliac disease.

Pre-diabetic pregnancies and pregnancies after the onset of diabetes were strongly associated with higher stillbirth rates compared to non-diabetic pregnancies, with odds ratios of 4.68 and 4.39, respectively. Compared to births without Inflammatory Bowel Disease (no-IBD), births to mothers with Crohn's Disease (CD) had significantly higher rates of preterm delivery, low birth weight, and smallness for gestational age. UC births were more likely to have congenital malformations. CD births had increased odds of preterm delivery, low birth weight, and smallness for gestational age, while UC births had higher odds of congenital malformations.

Features of AIH improved markedly from the second trimester of pregnancy onward, allowing a decrease in immunosuppressive therapy. After delivery (or stillbirth in one patient), the activity of the autoimmune disease flared up rapidly in 12 of 14 events [26-28].

Conclusion

This review provides evidence-based insights into how chronic illnesses and their treatment impact reproductive health. It explores the connection between conditions like autoimmune diseases, diabetes, psychiatric disorders, celiac disease, and inflammatory bowel diseases. The review emphasizes the negative effects of psychiatric illnesses during pregnancy, including high-risk pregnancies and adverse neonatal outcomes. While antipsychotic drugs in pregnancy seem to outweigh the risks, more research is needed for conclusive evidence. Untreated coeliac disease is associated with reproductive complications like delayed menarche, earlier menopause, secondary amenorrhea, and spontaneous abortions. Adhering to a strict gluten-free diet appears to reduce these issues, underscoring the importance of treatment. The relationship between gestational diabetes and stillbirth rates remains debated. Pre-diabetic pregnancies and those after diabetes onset have higher stillbirth rates compared to non-diabetic pregnancies, despite advances in obstetric care. Further research is necessary to fully understand the level of risk and its implications.

Mothers with inflammatory bowel diseases face increased risks of adverse pregnancy outcomes, including preterm delivery, low birth weight, and congenital malformations. Proper management and monitoring are crucial for pregnant women with these conditions. Autoimmune hepatitis during pregnancy raises concerns due to cirrhosis and hormonal dysfunction. While stillbirths and premature births can occur, the incidence of congenital malformations doesn't appear to be elevated. Close monitoring and careful management are essential for favorable outcomes.

Overall, this narrative review highlights the need for comprehensive understanding and management of chronic illnesses in the context of reproductive health. Further research is required to elucidate the underlying mechanisms and develop evidence-based guidelines for the management of these conditions during pregnancy. Improved knowledge in this area will contribute to better reproductive health outcomes for individuals affected by chronic illnesses.

Declarations

Availability of data and material

Not applicable

Competing interests

The authors declare that they have no competing interests.

Funding

Not applicable.

Acknowledgments

Not applicable.

References

- Davies, A., et al. "Interventions to enhance medication adherence in pregnancy-a systematic review." *BMC Pregnancy Childbirth* 23.1 (2023): 1-21.
- Ralston, E. R., et al. "Perceptions of risk in pregnancy with chronic disease: A systematic review and thematic synthesis." *PloS one* 16.7 (2021): e0254956.
- Gogoi, M., & Unisa, S. "Chronic diseases during pregnancy and birth outcome: a study based on tertiary hospital of Mumbai." *Women Health Open J* 3.2 (2017): 61-8.
- Bramham, K., et al. "Chronic hypertension and pregnancy outcomes: systematic review and meta-analysis." *Bmj* 348 (2014).
- Barrett, P. M. "Adverse Pregnancy Outcomes—A Missed Opportunity to Prevent Chronic Disease?." *Int. J. Public Health* 66 (2021): 582810.
- Montagnoli, C., et al. "Maternal mental health and reproductive outcomes: a scoping review of the current literature." *Arch. gynecol. obstet.* 302 (2020): 801-819.
- Sūdžiūtė, K., et al. "Pre-existing mental health disorders affect pregnancy and neonatal outcomes: a retrospective cohort study." *BMC Pregnancy Childbirth* 20.1 (2020): 1-7.
- Voit, F.C., et al. "Maternal mental health and adverse birth outcomes." *Plos one* 17.8 (2022): e0272210.
- Butler, M. M., et al. "Coeliac disease and pregnancy outcomes." *Obstet. med.* 4.3 (2011): 95-98.
- Greco, L., et al. "Undiagnosed coeliac disease does not appear to be associated with unfavourable outcome of pregnancy." *Gut* 53.1 (2004): 149-151
- Greco, L., et al. "Undiagnosed coeliac disease does not appear to be associated with unfavourable outcome of pregnancy." *Gut* 53.1 (2004): 149-151.
- Mackin, S. T., et al. "Factors associated with stillbirth in women with diabetes." *Diabetologia* 62 (2019): 1938-1947.]
- Rosenstein, M. G., et al. "The risk of stillbirth and infant death stratified by gestational age in women with gestational diabetes." *Am. j. obstet. gynecol.* 206.4 (2012): 309-e1.
- Voit, F. C., et al. "Maternal mental health and adverse birth outcomes." *Plos one* 17.8 (2022): e0272210.
- Lim, E. et al. "Liver diseases in pregnancy." *Clin. Med.* 21.5 (2021): e441.
- Galibert, S., et al. "Hepatic cirrhosis with portal hypertension secondary to alpha-1 antitrypsin deficiency and autoimmune hepatitis in pregnancy: A case report."
- Ponticelli, C. & Moroni, G. "Fetal toxicity of immunosuppressive drugs in pregnancy." *J. clin. med.* 7.12 (2018): 552.
- Dalman, C., et al. "Signs of asphyxia at birth and risk of schizophrenia: population-based case-control study." *Br. J. Psychiatry* 179.5 (2001): 403-408..
- Zaks, N., et al. "Association Between Mental Health and Reproductive System Disorders in Women: A Systematic Review and Meta-analysis." *JAMA Netw. Open* 6.4 (2023): e238685-e238685.
- Bedaso, A., et al. "The relationship between social support and mental health problems during pregnancy: a systematic review and meta-analysis." *Reprod. health* 18.1 (2021): 1-2
- Biagi, F., et al. "A multicentre case control study on complicated coeliac disease: two different patterns of natural history, two different prognoses." *BMC gastroenterol.* 14.1 (2014): 1-6.
- Nørgård, B. M., et al. "Live birth and adverse birth outcomes in women with ulcerative colitis and Crohn's disease receiving assisted reproduction: a 20-year nationwide cohort study." *Gut* 65.5 (2016): 767-776..
- Ananthakrishnan, A.N., et al. "Improving case definition of Crohn's disease and ulcerative colitis in electronic medical records using natural language processing: a novel informatics approach." *Inflamm. bowel dis.* 19.7 (2013): 1411-1420.,
- Nayagam, J.S., et al. "Overlap Syndrome with Autoimmune Hepatitis and Primary Sclerosing Cholangitis " *EMJ Hepatol.* 2019;7[1]:95-104.
- Dalekos, G. N., & Gatselis, N.K. "PSC-AIH Overlap." *Liver Immunol.: Princ. Pract.* (2020): 359-373..
- Kotryna, S., et al. "Pre-existing mental health disorders affect pregnancy and neonatal outcomes: a retrospective cohort study." *BMC Pregnancy Childbirth* 20.1 (2020): 1-7.
- Starikov, R., et al. "Stillbirth in the pregnancy complicated by diabetes." *Curr. diabetes rep.* 15 (2015): 1-9.
- Lemieux, P., et al. "The association between gestational diabetes and stillbirth: a systematic review and meta-analysis." *Diabetologia* (2022): 1-18.