Maternal Perinatal-Provoked Psychological Disorders: Adverse Impact on School-Age Children, Neurodevelopment, Education, and Intervention Strategies

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Abstract

This review explores the relationship between maternal psychological disorders and their impact on a child’s academic performance. Maternal conditions such as depression, anxiety, and bipolar disorder can disrupt neurodevelopmental processes during pregnancy, affecting the formation of crucial neural circuits for cognitive functions. The consequences extend into early childhood, with compromised maternal-infant interactions leading to challenges in forming secure attachments and, subsequently, cognitive and attentional difficulties.

As children enter formal education, the repercussions intensify, with an increased risk of academic underachievement, learning disabilities, and behavioral problems. Genetic predispositions and environmental factors, including inconsistent routines and limited parental involvement, further exacerbate academic challenges. Interventions, including early identification and multidisciplinary collaboration, emerge as crucial strategies.
Psychoeducation programs aimed at reducing stigma and enhancing awareness can foster a supportive community for early intervention.

The review also addresses the prevalence and impact of psychological disorders during pregnancy, emphasizing depression, anxiety, and post-traumatic stress disorder (PTSD). Biological and psychosocial factors contribute to their development, affecting maternal health, fetal development, and prenatal care. The impact extends to the child, manifesting in neonatal and developmental effects. Resources and treatment options, including counseling and psychotherapy, are discussed, along with the limitations and challenges in current practices.

Diagnosis of psychological disorders during pregnancy involves recognizing clinical indications, utilizing screening tools, and integrating mental health assessments into prenatal care. The role of healthcare providers, educators, and community support networks is highlighted, emphasizing a collaborative approach. Limitations, challenges, and considerations for future research are explored, advocating for improved access to mental health resources and addressing socioeconomic and cultural disparities. The conclusion underscores the urgency of addressing maternal psychological disorders, urging comprehensive, evidence-based interventions and collaborative efforts for better outcomes in maternal mental healthcare.

Keywords: gestational mental health, maternal well-being, obstetric psychology, therapeutic interventions to gestational-related psychological disorders.


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mothers with psychological disorders, can disrupt the delicate balance of neurodevelopmental processes (Jagtap, Jagtap, Jagtap, Lamture, & Gomase, 2023). Elevated levels of stress hormones, such as cortisol, may adversely affect the formation of neural circuits critical for cognitive functions like memory, attention, and problem-solving.

Moreover, the placental transfer of neurotransmitters influenced by maternal mental health can further contribute to alterations in fetal brain development (Fitzgerald et al., 2020). For instance, imbalances in serotonin levels, often associated with maternal depression, have been linked to disruptions in the formation of neuronal connections and may contribute to cognitive deficits in the offspring (Goeden et al., 2016).

**Early Childhood and Cognitive Functioning**

In the early years of a child’s life, the impact of maternal psychological disorders continues to manifest as the child’s cognitive abilities begin to unfold (Fitzgerald et al., 2020). The quality of maternal-infant interactions significantly shapes the child’s cognitive and emotional development (Bernard-Bonnin, 2004). Mothers who have psychological disorders may exhibit compromised caregiving behaviors characterized by reduced sensitivity, responsiveness, and emotional availability.

These deficits in maternal caregiving can impede the child’s ability to form secure attachments, a crucial foundation for healthy socio-emotional development (Doyle & Cicchetti, 2017). The resultant emotional insecurity may, in turn, contribute to the emergence of cognitive and attentional difficulties, affecting the child’s readiness for academic challenges.

**School-age Children and Academic Performance**

As children enter formal education, the repercussions of maternal psychological disorders become more pronounced in their academic performance. Research suggests that children of mothers with depression or anxiety are at an increased risk of experiencing academic underachievement, learning disabilities, and behavioral problems (Bernard-Bonnin, 2004). The cognitive deficits observed in these children may manifest as difficulties in concentration, impaired executive functions, and reduced academic motivation.

The complex interplay of genetic predispositions and environmental factors creates a challenging terrain for children to navigate, often leading to an increased likelihood of learning difficulties and lower academic achievement (Bernard-Bonnin, 2004; Doyle & Cicchetti, 2017).

**The Role of Environmental Factors**

Beyond the biological and genetic components, environmental factors associated with maternal psychological disorders also contribute significantly to the academic challenges faced by children (Bernard-Bonnin, 2004). The home environment, characterized by inconsistent routines, reduced parental involvement, and limited educational support, can further exacerbate the impact of maternal mental health on a child’s academic trajectory (Doyle & Cicchetti, 2017).

Financial stressors commonly associated with psychological disorders may limit access to educational resources and extracurricular activities, hindering the child’s overall academic experience (Long, Wang, Wang, Yao, & Liu, 2023). Additionally, the stigma surrounding maternal mental health issues may impede the family’s ability to seek and receive appropriate support, perpetuating a cycle of academic difficulties.
Interventions and Implications

Recognizing the intricate web of factors influencing a child’s academic performance in the context of maternal psychological disorders is crucial for the development and implementation of effective interventions (Bernard-Bonnin, 2004; Doyle & Cicchetti, 2017). Early identification and intervention strategies, including mental health support for mothers and targeted educational interventions for children, can mitigate the adverse effects on academic outcomes (Bernard-Bonnin, 2004; Colizzi, Lasalvia, & Ruggeri, 2020).

Multidisciplinary collaboration involving mental health professionals, educators, and healthcare providers is essential to provide comprehensive care for both mothers and children. Psychoeducation programs to reduce stigma and enhance awareness can foster a supportive community that facilitates early intervention and promotes positive academic outcomes (Colizzi et al., 2020).

The impact of maternal psychological disorders on a child’s academic performance is a multifaceted issue influenced by genetic, biological, and environmental factors (Bernard-Bonnin, 2004). Understanding the intricate mechanisms through which maternal mental health affects neurodevelopment and academic achievement is crucial for implementing effective interventions. By fostering a collaborative approach between mental health professionals, educators, and families, it is possible to mitigate the negative consequences and provide a supportive environment for the holistic development of children affected by maternal psychological disorders. Early identification and intervention are crucial to breaking the cycle of academic challenges and promoting positive outcomes for the next generation.

The following review focuses on one, albeit a significant, aspect that could be affecting acutely (a sudden decrease in academic performance) or chronically (a gradual decrease in academic performance) of appeared before proficient or advanced learners. The awareness and understanding of this hidden psychological factor is another tool that can be used in education (by an educator) to maintain or improve the student’s academic performance.

Discussion

During pregnancy, a woman’s body goes through considerable changes, which can be a stressful experience for some. It is not uncommon for pregnant women to experience psychological disorders, such as depression, anxiety, bipolar disorder, post-traumatic stress disorder (PTSD), and obsessive-compulsive disorder (Ross & McLean, 2006). These disorders can have adverse effects on the pregnant woman and their child. Recognizing, treating, and addressing these disorders is crucial in properly caring for the woman.

Historical Context

Pioneering research in the recognition of psychological disorders during pregnancy emerged in the 1980s. Since then, a growing body of research has examined these disorders’ prevalence, causes, and treatment options. In the 1990s, researchers began documenting the adverse effects of maternal stress on the fetus (Davis & Sandman, 2010). More recently, there have been efforts to investigate the long-term effects of prenatal exposure to maternal stress hormones and the potential impact on children’s mental health (de Almeida, Sá, Cunha, & Pires, 2012).
Notable Research
One landmark study by Field (2016) found that massage therapy reduced depression and anxiety in pregnant women. Moreover, it was discovered in a study by Akgor et al. (2021) that pregnant women over 35 years old had a higher incidence of psychiatric disorders. Another study by Al-Mutawtah, Campbell, Kubis, and Erjavec (2023) highlighted the importance of social support and self-esteem in predicting depressive symptoms during pregnancy.

Types of Psychological Disorders During Pregnancy
Psychological disorders that are commonly found during pregnancy include depression, anxiety, and PTSD (Biaggi, Conroy, Pawlby, & Pariante, 2016; Smoller, 2016). Depression during pregnancy is one of the most common psychological disorders and is associated with significant distress, impaired functioning, and adverse health consequences for both the pregnant woman and the child (Biaggi et al., 2016; Martínez-Paredes & Jácome-Pérez, 2019). Anxiety disorders are a close second to depression in terms of prevalence. It is estimated that approximately 20 to 25% of pregnant women experience anxiety during pregnancy (Nakić Radoš, Tadinac, & Herman, 2018). PTSD is a disorder that can develop after experiencing or witnessing a traumatic event and can manifest during pregnancy (Smoller, 2016).

Table 1. Psychological Disorders and Their Features and Impact

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Prevalence (%)</th>
<th>Distinctive Features During Pregnancy</th>
<th>Impact on Maternal Health and Fetal Development</th>
<th>Impact on Prenatal Care and Maternal Behaviors</th>
<th>Impact on the Child</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>Common</td>
<td>Feelings of sadness, guilt, and worthlessness; exacerbated by hormonal changes, weight gain, and body image alterations</td>
<td>Premature labor, low birth weight, preeclampsia</td>
<td>Poor prenatal care, negative health behaviors; long-term impacts on child development</td>
<td>Poor prenatal care, negative health behaviors; long-term impacts on child development</td>
</tr>
<tr>
<td>Anxiety</td>
<td>20-25%</td>
<td>Excessive worrying, fear, dread, panic attacks</td>
<td>Higher risk of preterm delivery, low birth weight</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PTSD</td>
<td>Common</td>
<td>Triggered by pregnancy-related stressors, such as childbirth or vulnerability</td>
<td>Premature labor, low birth weight, preeclampsia</td>
<td>Poor prenatal care, negative health behaviors; long-term impacts on child development</td>
<td>Poor prenatal care, negative health behaviors; long-term impacts on child development</td>
</tr>
</tbody>
</table>

Each psychological disorder presents distinctive features during pregnancy (Suryawanshi & Pajai, 2022). Depression during pregnancy is associated with feelings of sadness, guilt, and worthlessness. These symptoms can be exacerbated by hormonal changes, weight gain, and changes in body image (Silveira, Ertel, Dole, & Chasan-Taber, 2015). Anxiety during pregnancy can be characterized by excessive worrying, fear, or dread and may present as panic attacks. PTSD during pregnancy may be triggered by pregnancy-related stressors, such as childbirth or feelings of vulnerability (Khoramroudi, 2018; Smoller, 2016). Table 1 summarizes the types of psychological
Acquisition of Psychological Disorders During Pregnancy

Several factors can contribute to the development of psychological disorders during pregnancy. Biological factors, including changes in hormone levels and genetic predisposition, can increase the risk of depression and anxiety during pregnancy (Smoller, 2016). Hormonal changes during pregnancy can result in altered neurotransmitter levels, impacting mood and stress levels (Field et al., 2008; Osman & Bahri, 2019). A genetic predisposition to depression and anxiety has also been identified in studies examining the influence of mental health history on the development of psychological disorders during pregnancy (Biaggi et al., 2016).

Psychosocial factors, such as pregnancy-related stressors and changes in the pregnant woman’s support system, can also contribute to the development of psychological disorders during pregnancy (Omidvar, Faramarzi, Hajian-Tilak, & Nasiri Amiri, 2018). Pregnancy can be a stressful time, particularly for first-time parents. Furthermore, relationship dynamics and changes in social support systems can have an impact on mental health during pregnancy (Bedaso, Adams, Peng, & Sibbritt, 2021). Environmental factors, such as socioeconomic influences and cultural considerations, can also impact mental health during pregnancy (Stocker et al., 2020).

Impact on the Pregnant Woman and Child

Psychological disorders during pregnancy can have an impact on maternal health and fetal development. The physical consequences of depression during pregnancy can include premature labor, low birth weight, and preeclampsia (Faisal-Cury, Araya, Zugaib, & Menezes, 2010). Anxiety during pregnancy has been linked to a higher risk of preterm delivery and low birth weight (Dunkel Schetter & Tanner, 2012). Moreover, the development of PTSD during pregnancy can generate a potential risk of complications through changes in cortisol levels and other group stress-related hormones (Smoller, 2016).

Psychological disorders during pregnancy can also affect prenatal care and maternal behaviors. Depression during pregnancy has been strongly associated with poor prenatal care and negative health behaviors (Cox, Puckering, Pound, & Mills, 1987). Furthermore, postpartum depression can lead to a decrease in mother-and-child contact, negative impacts of breastfeeding, and other issues (Slomian, Honvo, Emonts, Reginster, & Bruyère, 2019). Long-term impacts of postpartum depression can also manifest in later years, indicating the need for continued maternal mental health screening (Sharma, Singh, Tempe, & Malhotra, 2017).

The impact on the child can include neonatal and developmental effects, such as premature birth, low birth weight, and developmental delays (Hee Chung, Chou, & Brown, 2020; Morniroli et al., 2023). Children born to mothers with birth depression are likely to exhibit more emotional and behavioral problems, attention problems, and language developmental delays in early childhood (Hee Chung et al., 2020). More recent studies suggest a possible link between prenatal exposure to maternal stress hormones and the potential for long-term psychological consequences in children (Zietlow, Nonnenmacher, Reck, Ditzen, & Müller, 2019).
Resources and Treatment Options

There are several resources available for pregnant women with psychological disorders. Counseling, psychotherapy, and medication can help treat these disorders (van Ravesteyn, Lambregtse - van den Berg, Hoogendijk, & Kamperman, 2017). Moreover, maternal caregiving can ameliorate the consequences of prenatal maternal psychological distress on child development by altering developmental trajectories and improving child mental outcomes (Grande, Swales, Sandman, Glynn, & Davis, 2022). Similarly, addressing psychosocial and environmental factors, such as changing maternal support or addressing cultural norms, can also mitigate the impact of psychological disorders during pregnancy on the mother and child (Satyanarayana, Lukose, & Srinivasan, 2011).

However, there are limitations to existing care options, including a lack of standard, validated tools to assess psychological disorders during pregnancy (van Ravesteyn et al., 2017). Further investigation is necessary to ascertain efficacious methodologies and interventions for the management and prevention of psychological disorders during pregnancy. Also, there is a need for enhancement in the existing diagnostic instruments to identify and monitor maternal psychological distress more effectively (Kingston, Tough, & Whitfield, 2012).

Diagnosis of Psychological Disorders in Pregnant Women

Clinical Indications

Recognizing symptoms in prenatal care settings: Pregnant women with psychological disorders may exhibit symptoms such as persistent sadness or worry, difficulty focusing, changes in appetite or sleep patterns, reduced energy, feelings of guilt or worthlessness, and decreased interest in previously enjoyed activities (Silveira et al., 2015). Prenatal care providers can recognize these symptoms during prenatal checkups. Awareness of these symptoms can lead to identifying women experiencing psychological distress before the condition progresses, resulting in better treatment outcomes.

Screening tools and questionnaires: Screening tools and questionnaires have been developed to assess mental health symptoms during pregnancy. These include the Edinburgh Postnatal Depression Scale (EPDS), the Patient Health Questionnaire (PHQ-9), which assesses depressive disorders, and the Generalized Anxiety Disorder 7-item scale (GAD-7), which assesses anxiety symptoms (Wang, Kroenke, Stump, & Monahan, 2021). These screening tools assess a range of psychological symptoms and can help to identify psychological disorders earlier in the course of pregnancy.

Applications and Procedures

Integration of mental health assessments into prenatal care: Mental health assessments have been increasingly integrated into routine prenatal care (Baron et al., 2016). This process of assessment involves screening, evaluation, diagnosis, and treatment of women with psychological disorders during pregnancy. Prenatal care providers can work with mental health professionals in this regard, offering assessments and interventions to pregnant women at risk.

Collaborative approaches between obstetricians and mental health professionals: Collaborative approaches between obstetricians and mental health professionals have been established as effective in treating psychological disorders in pregnant women (Klatter, van Ravesteyn, & Stekelenburg, 2022). These collaborative approaches help address the comorbidities and complexities associated with
psychological disorders. Mental health professionals can work together with obstetricians to provide coordinated care for pregnant women with psychological disorders. This comprehensive approach can help to identify and address other medical or behavioral issues concurrently.

**Limitations and Challenges**

**Stigma and reluctance to disclose:** A lack of awareness or reluctance to disclose psychological distress in pregnant women can be one of the significant barriers to diagnosis and treatment. Certain expectant mothers may undergo considerable anxiety concerning the potential stigma linked with a diagnosis of a psychological disorder (Law et al., 2021). This anxiety can affect the disclosure of symptoms, consequently influencing the accuracy of the diagnosis. Prenatal care providers will need to prioritize ensuring inclusion and confidentiality in their approach to addressing psychological distress in pregnant women.

**Diagnostic challenges and comorbidities:** Comorbidities and diagnostic challenges are common in identifying and treating psychological disorders during pregnancy. Some pregnant women experiencing substance abuse may demonstrate overlapping symptoms that make it difficult to differentiate symptoms associated with psychological disorders such as depression or anxiety (Biaggi et al., 2016; Klein & Essex, 1994). Additionally, standardization of diagnostic practices can be challenging due to cultural factors, ethical considerations, socioeconomic status, and legal considerations.

**Considerations of Current Practices, and Resources**

Cognitive-behavioral therapy (CBT), mindfulness-based interventions, and physical activity are among the supportive interventions provided for pregnant women experiencing psychological distress (van Ravesteyn et al., 2017). CBT involves identifying and modifying behaviors and thought processes contributing to psychological distress. Mindfulness practices involve increasing awareness of internal experiences, including thoughts, feelings, bodily sensations, and emotions. Physical activities include exercise or other forms of physical activity, such as stretching, guided imagery, or relaxation.

**Access to Mental Health Resources for Pregnant Women**

Access to mental health resources is critical for pregnant women with psychological disorders. However, many pregnant women, particularly those from marginalized communities, lack access to mental health services (Brown & Sprague, 2021). Efforts from healthcare providers and policymakers to improve access to and utilization of mental health resources should be prioritized through targeted awareness, community engagement, and education.

**Healthcare Providers’ Role in Addressing Psychological Disorders**

Healthcare providers play an essential role in addressing psychological disorders during pregnancy. They can provide support, education, and reassurance to pregnant women experiencing psychological distress, facilitate referrals to mental health professionals, and help navigate resources available (Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 1993). They can also screen for psychological disorders, provide initial treatment, and collaborate with mental health professionals to ensure adequate care for the pregnant woman.
Educators’ Role in Addressing Psychological Disorders

In addition to healthcare providers, educators also play a pivotal role in addressing psychological disorders in pregnant women, influencing the child’s behavior and academic performance. Through psychoeducational interventions, educators contribute to mitigating the impact of maternal mental health on neurodevelopment and fostering socio-emotional well-being in early childhood (Saharoy, Potdukhe, Wanjari, & Taksande, 2023). By promoting secure attachments and addressing potential cognitive deficits, educators aid in preparing children for academic challenges. Early identification of maternal psychological disorders enables targeted support, encompassing a multidisciplinary approach involving mental health professionals (Colizzi et al., 2020). Educators are essential contributors to a collaborative framework, ensuring comprehensive care that positively influences the child’s academic trajectory and overall developmental outcomes.

Community and Social Support Networks

Community and social support networks offer essential support for pregnant women experiencing psychological distress. Social support has been found to be effective in reducing psychosocial distress during pregnancy (Glazier, Elgar, Goel, & Holzapfel, 2004). Support groups, mobile messaging interventions, telehealth interventions, and home visits from trained healthcare providers have effectively provided social support.

Limitations of Current Research and Practices

Methodological Challenges in Studying Psychological Disorders During Pregnancy

Designing research to evaluate psychological disorders during pregnancy presents many methodological challenges, including recruitment and retention of participants, standardization of diagnostic practices, and limitations in sampling methods (Glazier et al., 2004). Researchers must focus on improving standardized screening practices and increasing access to more diverse participant populations to improve the accuracy and representativeness of research.

Gaps in Understanding Specific Disorders and Their Nuances

There is still a significant gap in understanding the nuances of psychological disorders in pregnant women. For example, research on bipolar disorder, personality disorders, and other psychological disorders during pregnancy is still limited. More research is necessary to identify the mechanisms, diagnosis, prevention, and treatment of psychological disorders during pregnancy (Bedaso et al., 2021).

Socioeconomic and Cultural Disparities in Research Representation

Representation of women from lower socioeconomic backgrounds or marginalized populations is often limited in research related to psychological disorders during pregnancy (Stocker et al., 2020). Healthcare providers should work toward increasing access to and utilization of mental health resources among pregnant women from all backgrounds, promoting inclusivity and diversity, and ensuring equal access and outcomes from these resources. Cultural competency training and addressing unconscious biases among healthcare providers can help improve the diagnosis and treatment of psychological disorders in pregnant women across diverse populations.
Current and Future Perspectives

Emerging Technologies and Tools in Mental Health Assessment During Pregnancy

Emerging technologies and tools are helping to improve the diagnosis and treatment of psychological disorders during pregnancy. For example, mobile applications, technology-assisted therapy, and telemedicine can now deliver treatment to pregnant women with psychological distress more efficiently and cost-effectively (Stentzel et al., 2023). These tools are improving diagnosis and psychosocial interventions to mitigate psychological distress occurring during pregnancy.

Integration of Psychological Care Into Routine Prenatal Services

Integrating psychological care into routine prenatal services offers a mechanism for identifying and treating psychological disorders during pregnancy (Baron et al., 2016). Studies have shown that incorporating mental health services into routine prenatal care can reduce depressive symptoms among pregnant women and improve overall outcomes (Silva, Serrano, Porcel, Monteiro, & Clapis, 2023). Incorporating services at an early stage can help mitigate further complications and improve the quality of care for pregnant women.

Research Directions and Areas for Further Exploration

Future research should focus on developing a comprehensive understanding of the prevalence, course, and outcomes of psychological disorders during pregnancy in specific populations and measure the impact of interventions for pregnant women with psychological disorders. This approach would ensure equitable access to healthcare, gather a better understanding of pregnant women’s unique concerns and preferences, and ensure the continual provision of evidence-based quality care. Additionally, future research should be carried out to develop further the understanding of social and cultural factors that may shape access to care and the acceptance and treatment of psychological disorders in pregnant women from diverse populations (Iliadou et al., 2019). Findings from these studies would provide a more precise roadmap for improving access to care for all pregnant women and help reduce the incidence and severity of psychological distress during pregnancy.

Psychological disorders have significant consequences during pregnancy for both mothers and their infants. Pregnant women require diagnosis and treatment, given the potential complications associated with untreated psychological disorders in pregnancy. While current and emerging practices offer solutions to the challenges in addressing psychological disorders in pregnant women, there is still a need for continued research and exploration of these disorders. The integration of mental health assessments and care into routine prenatal care offers the most promising approach for addressing psychological disorders in pregnant women. More measures to address the socioeconomic and cultural disparities in research representation are necessary to ensure equitable utilization of psychological care.

Conclusion

Pregnant women with psychological disorders require diagnosis and treatment due to potential complications affecting both them and their infant. Key stakeholders in addressing these issues include healthcare providers, policymakers, mental health professionals, and community support networks. Improvements can be made through
Enhanced training for healthcare professionals, increased accessibility to mental health services, advocacy for policy changes, and collaborative efforts between medical and mental health disciplines. Urgency exists in addressing psychological disorders during pregnancy, and there is a need for continued research and improved practices to ensure equitable access to quality care for all pregnant women.

Healthcare providers have substantial influence in diagnosing and treating psychological disorders during pregnancy. Policymakers similarly hold pivotal roles in bolstering enhancements in maternal mental healthcare. Mental health professionals strive to ensure sufficient care during pregnancy, while community support networks furnish additional assistance for expectant mothers.

Enhanced training for healthcare professionals could improve the early identification of psychological disorders and facilitate timely referral and treatment for affected women. Increased accessibility to mental health services could also facilitate easier access and utilization of services by pregnant women. Advocacy for policy changes and enhanced awareness could serve as a catalyst for progress in maternal mental healthcare policies and practices. Collaborative efforts between medical and mental health disciplines could facilitate treatment provision and care coordination.

There is an urgent need to address maternal psychological disorders during pregnancy. With comprehensive, evidence-based interventions, a significant improvement in care quality and outcomes for pregnant women and their offspring can be achieved. Continued research and improved practices are necessary to ensure equitable access to quality care for all pregnant women. By involving key stakeholders, implementing recommended improvements, and focusing on collaborative approaches, better outcomes for pregnant women with psychological disorders will be achieved.

Conflict of Interest Statement

The authors declare that this paper was written without any commercial or financial relationship that could be construed as a potential conflict of interest.

References


