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MATERNAL MENTAL STATE, NEURODEVELOPMENTAL DISORDERS, AND HOMOEOPATHIC INTERVENTION: A RETROSPECTIVE CLINICAL STUDY

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ABSTRACT

Maternal psychological health during pregnancy is increasingly acknowledged as a critical factor influencing fetal neurodevelopment. Increased antenatal stress, anxiety, or depression can affect fetal neuroendocrine mechanisms, making children more likely to have neurodevelopmental disorders (NDDs) like autism spectrum disorder (ASD), attention deficit hyperactivity disorder (ADHD), and global developmental delay (GDD). Homoeopathy, characterized by its holistic and personalized therapeutic methodology, presents potential advantages in alleviating such effects. The study aims to ascertain the correlation between the antenatal mental state of mothers and neurodevelopmental disorders in children, as well as to assess the clinical efficacy of individualized homeopathic remedies in their management. This retrospective observational case series was carried out at Sarada Krishna Homoeopathic Medical College and Hospital (SKHMC), Kulasekharam. We looked at data from 30 kids (ages 0 to 5) who were diagnosed with NDDs and their mothers' psychological history before the birth. The emotional states of mothers were classified by trimester. Children received personalized homeopathic remedies chosen via classical Hahnemannian case-taking. We used descriptive statistics and inferential analyses (ANOVA, t-test) to look at the results. Of the 30 children, 73% were male, and the most common diagnoses were autism (33%), ADHD (20%), and cerebral palsy (17%). Grief, anger, and sadness were common mental states among mothers, with grief being especially common among mothers of children with ASD and cerebral palsy. Silicea terra, Calcarea carbonica, Carcinosin, Natrum muriaticum, and Causticum were the most common medicines that doctors gave out. Seventy-three percent of cases showed clinical improvement. Statistical analysis indicated no significant differences based on gender or diagnosis ($p > 0.05$); however, discernible clinical trends indicated positive responses to individualized homeopathic treatment. The results indicate a substantial correlation between antenatal maternal mental states and neurodevelopmental outcomes in offspring. Individualized homeopathic medicines exhibited favorable therapeutic results, underscoring the significance of holistic approaches that address maternal emotional well-being during pregnancy.

KEYWORDS: Antenatal mental state, Homoeopathy, Neurodevelopmental disorders, Autism, ADHD, Maternal stress, Individualized remedy.

INTRODUCTION

The prenatal period is one of the most important and formative times in a person's life. It has a big impact on both the mother's health and the baby's brain development [1]. In addition to the physiological changes that occur during pregnancy, a woman experiences a broad range of psychological and emotional transformations [2]. Historically, pregnancy was perceived as a phase of psychological resilience and emotional safeguarding; however, emerging evidence over the last twenty years has reconceptualized it as a susceptible interval during which maternal mental health can have enduring impacts on the physical, cognitive, and emotional development of offspring [3].

From a neurobiological perspective, the fetal brain is highly responsive to intrauterine environmental factors. Stress, anxiety, or depression in the mother can throw off the delicate balance of neuroendocrine communication between the mother and the fetus. Activation of the hypothalamic–pituitary–adrenal (HPA) axis results in heightened secretion of glucocorticoids, especially cortisol, which can readily traverse the placenta [4]. Long-term exposure of the developing fetus to high levels of cortisol has been shown to change how neurons grow, move, and connect in parts of the brain that control emotion and thought, like the hippocampus, amygdala, and prefrontal cortex. These changes could lead to long-term problems with how the body reacts to stress, trouble focusing, and bad behaviour in childhood [5–9].

Even though neurodevelopmental disorders are becoming more common and people are becoming more aware of how

things that happen before birth can affect them [10–13], there is still not enough research that looks at how a mother's emotional state during pregnancy affects her child's neurodevelopmental outcomes in a homeopathic way [8,14–16]. Traditional research frequently isolates biological determinants, neglecting the psychosomatic aspect inherent in the homeopathic perspective of health and disease [17]. This retrospective observational study was designed with two goals in mind: to find common patterns in the mental states of mothers who have children with neurodevelopmental disorders and to test how well individualized homeopathic medicines work for these children in a clinical setting.

The study seeks to provide empirical evidence to the expanding domain of psychosomatic and transgenerational homoeopathic research through the examination of case records and maternal histories from a tertiary homoeopathic institution. The results may elucidate the correlation between emotional factors during pregnancy and specific disease manifestations in children, as well as how tailored remedies can influence these manifestations, thereby reinforcing the holistic and preventive aspects of homeopathy.

2. MATERIALS AND METHODS

2.1. Study Design

A retrospective observational study was performed to examine the relationships between antenatal maternal mental states and neurodevelopmental outcomes, as well as to evaluate the clinical efficacy of personalized homeopathic treatment.

2.2. Study Setting

The Sarada Krishna Homoeopathic Medical College and Hospital (SKHMC) is a tertiary care facility in Kulasekharam, Tamil Nadu, with outpatient, inpatient, and rural health units.

2.3. Participants

Thirty children between the ages of 0 and 5 years with clinically diagnosed neurodevelopmental disorders (ASD, ADHD, cerebral palsy, global developmental delay) were included. Maternal antenatal psychological histories were evaluated retrospectively through structured questionnaires.

2.4. Inclusion criteria and Exclusion criteria

The study comprised children aged 0–5 years diagnosed with a clinically validated neurodevelopmental disorder, including autism spectrum disorder, ADHD, cerebral palsy, global developmental delay, or learning disability. Only cases in which mothers recalled specific emotional or mental states—such as anxiety, grief, fear, or depression—experienced during pregnancy were selected, corroborated by clinical records and structured questionnaires. Children with congenital anomalies, genetic syndromes, or neurological impairments resulting from birth trauma or postnatal infections were excluded. To make sure that the data was consistent and valid, cases with incomplete antenatal histories or not enough follow-up data were also left out.

2.5. Data Collection

Clinical data were obtained from hospital records and augmented by maternal interviews. Maternal emotional states, such as grief, anger, fear, anxiety, and insult, were classified by trimester. Follow-up notes and reports from parents were used to keep track of how well the kids were doing.

2.6. Treatment and Remedies

Individualized remedies were prescribed after a thorough case-taking process that followed the Hahnemannian method. The standard Materia Medica was used to do repertorization. Some of the remedies were Silicea terra, Calcarea carbonica, Carcinosin, Natrum muriaticum, Causticum, Sepia, and Staphysagria. Dosages and strengths were tailored to each person.

2.7. Outcome Measures and Ethical Considerations

Behavioral, cognitive, and motor responses were used to put clinical improvement into one of three groups: Improved, Moderately Improved, or Minimally Improved. Statistical analyses encompassed descriptive summaries and inferential tests (ANOVA, t-test; $p < 0.05$ regarded as significant). The study was retrospective, and patient identities were concealed. The mothers who took part gave their verbal consent. There were no new interventions.

3. RESULTS

3.1. Demographic Characteristics of the Study Population

The study included 30 children who had been diagnosed with neurodevelopmental disorders. The children were between 2 and 5 years old, and most of them (73%) were between 3 and 4 years old. There was a clear male predominance, with 22 boys (73%) and 8 girls (27%). This means that boys in this group were more likely to have neurodevelopmental disorders. The average age of the mothers at the time of conception was between 20 and 30

years, making up 86% of the cases. Only four mothers got pregnant after the age of 30. Most mothers were homemakers (50%), then teachers (17%) and nurses (13%). This shows that they came from different socioeconomic backgrounds.

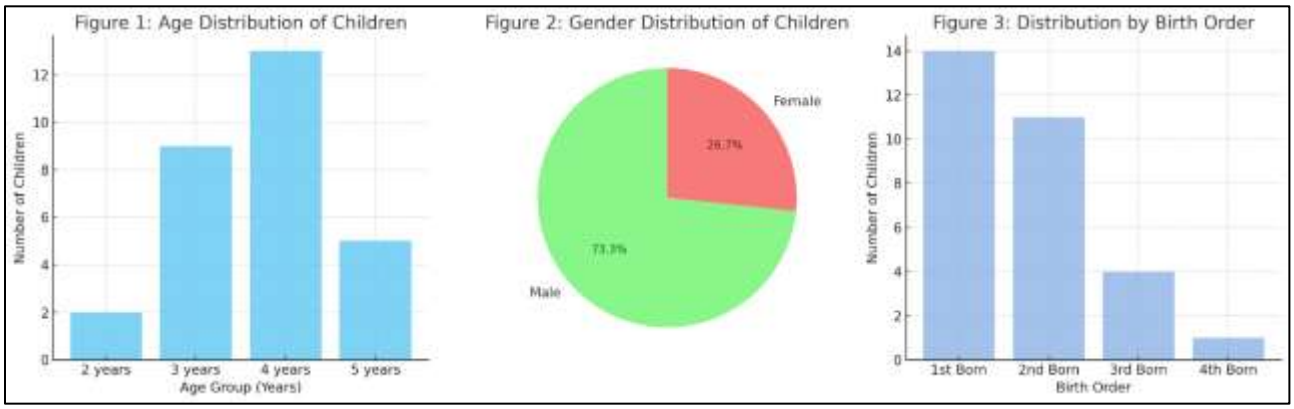

Figure 1: 1). Age Distribution of Children, 2). Gender Distribution, 3). Birth Order Distribution

3.2 Distribution According to Birth Order

The examination of birth order indicated that first-born children were predominantly affected, constituting 46% of the sample (n = 14), succeeded by second-born (n = 11; 37%), third-born (n = 4; 13%), and fourth-born (n = 1; 4%). This observation indicates a potential correlation between first-time pregnancy stress and neurodevelopmental outcomes in offspring, although additional research is necessary to validate this finding.

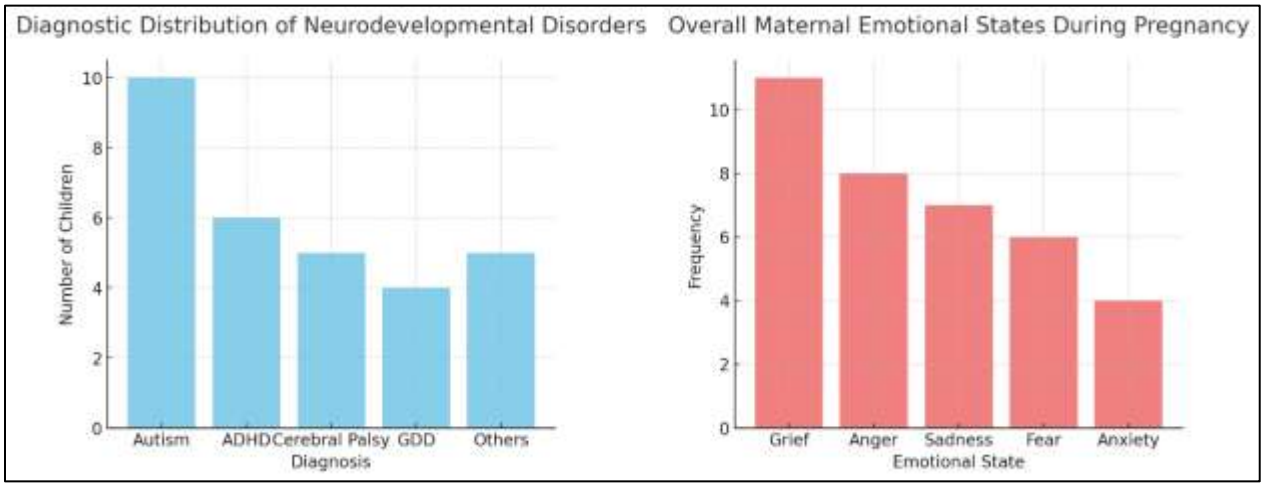

Figure 2: 1). Diagnostic Distribution of Neurodevelopmental Disorders, 2). Overall Maternal Emotional States During Pregnancy

3.3 The distribution of neurodevelopmental disorder diagnoses

The most common diagnosis among the 30 children was autism spectrum disorder (ASD), which was found in 10 of them (33%). Attention-deficit/hyperactivity disorder (ADHD) was found in 6 of them (20%), and cerebral palsy (CP) was found in 5 of them (17%). Four cases (13%) had global developmental delay (GDD), and the other five cases (17%) had developmental delay, mutism, intellectual disability (IDD), or Down syndrome. This diagnostic pattern corresponds with global prevalence data that identifies ASD and ADHD as the predominant neurodevelopmental disorders recognized in early childhood.

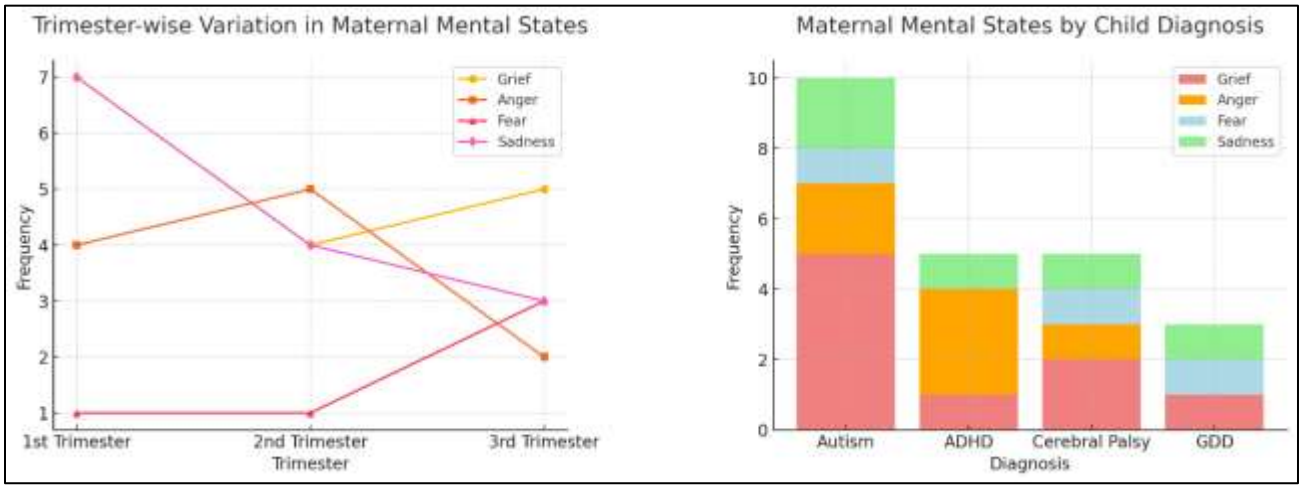

Figure 3: 1). Trimester-wise Variation in Maternal Mental States, 2). Maternal Mental States by Child Diagnosis

3.4 Maternal Psychological Conditions During the Antenatal Phase

An examination of maternal emotional patterns indicated a significant correlation between particular antenatal mental states and the classification of neurodevelopmental disorders in children. For mothers of children with autism, the most common feelings were grief (50%), sadness (30%), and anger (20%), especially in the first and third trimesters. During pregnancy, mothers of children with ADHD often felt angry (45%), suppressed grief (15%), and emotionally indifferent (10%). In instances of cerebral palsy, emotional states such as grief (40%), fear (25%), and insomnia (15%) were commonly reported. Conversely, mothers of children with global developmental delay indicated grief (30%), fear (20%), and disappointment (15%) as persistent emotional experiences. These findings collectively indicate that grief, anger, and fear were the predominant antenatal emotions linked to negative neurodevelopmental outcomes.

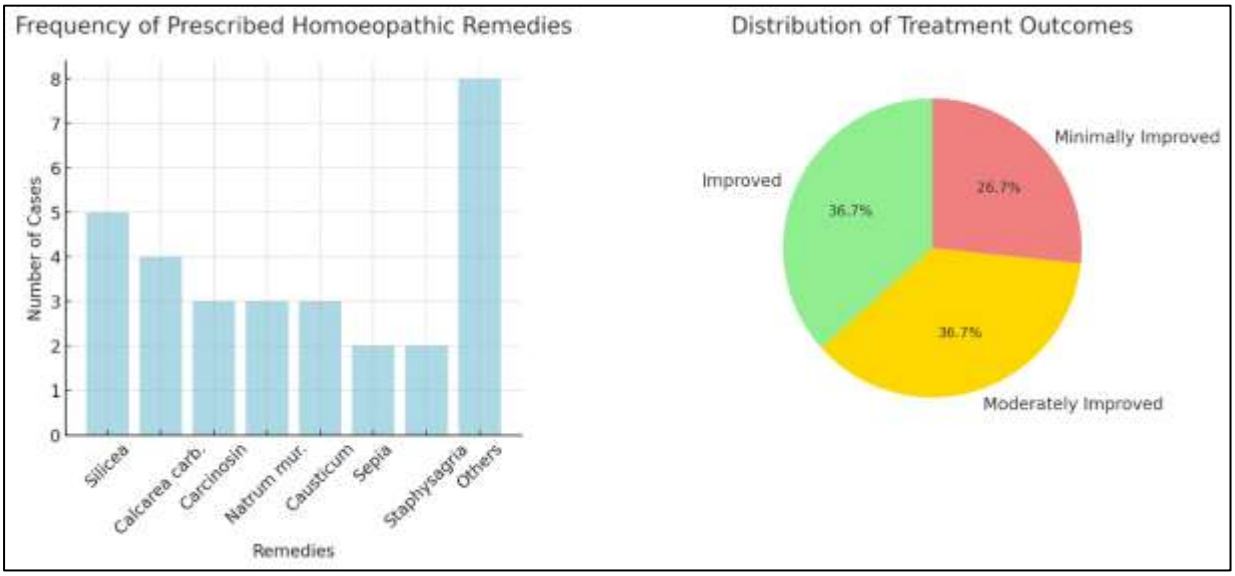

Figure 4: 1). Frequency of Prescribed Homoeopathic Remedies, 2). Distribution of Treatment Outcomes

3.5 Recommended Homoeopathic Treatments

Each child received a unique homeopathic prescription based on all of their symptoms. Silicea terra (17%), Calcarea carbonica (13%), Carcinosin (10%), Natrum muriaticum (10%), and Causticum (10%) were the most common remedies. Tarentula hispanica, Sepia officinalis, Staphysagria, Cicuta virosa, Bacillinum, Lycopodium clavatum, Agaricus muscarius, and Zincum metallicum were also given, but in smaller amounts. These remedies were chosen based on the children's individual constitutional profiles and emotional backgrounds, as well as the maternal emotional states observed during the antenatal period.

3.6 Results of Treatment

The evaluation of treatment responses indicated that 11 children (37%) exhibited significant improvement, 11 (37%) displayed moderate improvement, and 8 (26%) showed minimal improvement subsequent to individualized homoeopathic therapy. There were improvements in areas like speech, attention span, social interaction, and motor coordination. Even though the sample size made the statistics less powerful, clinical observation showed that most diagnostic categories were showing positive therapeutic trends, with autism and ADHD cases making the most progress.

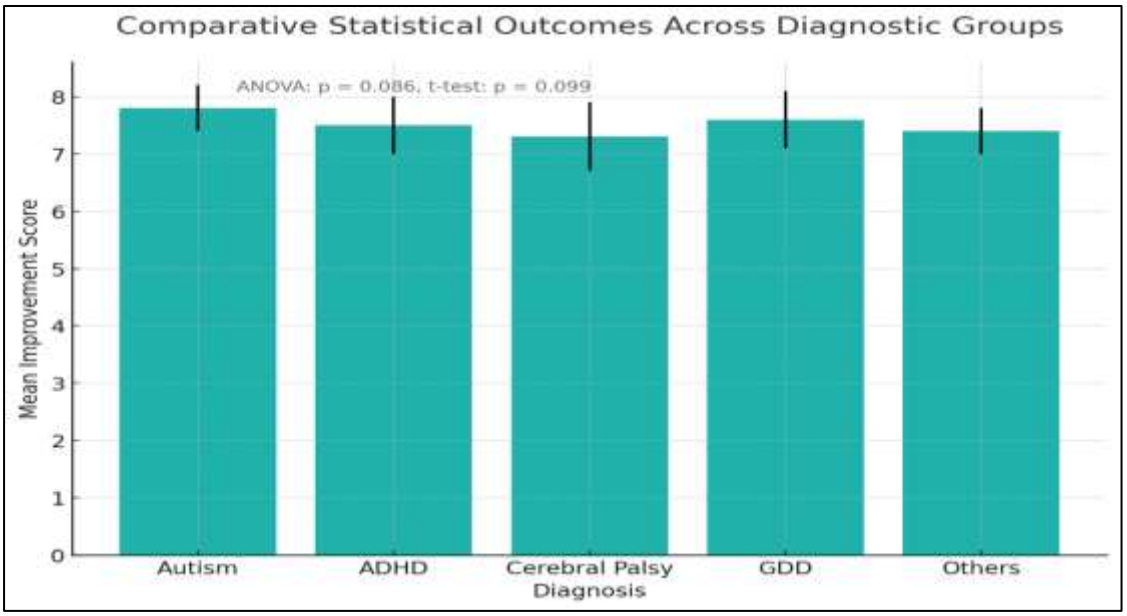

Figure 5: Comparative Statistical Outcomes Across Diagnostic Groups

3.7 Analysis of Statistics

ANOVA statistical analysis showed that differences in treatment outcomes between diagnostic groups (autism, ADHD, cerebral palsy, etc.) were not statistically significant ($p = 0.086$). Likewise, the t-test comparison of treatment responses based on gender indicated no significant difference ($p = 0.099$). Even though the results weren't statistically significant, they suggest that individualized homoeopathic management for neurodevelopmental disorders could work for a wide range of diagnoses and genders.

4. DISCUSSION

The current study substantiates the hypothesis that maternal emotional well-being during gestation profoundly influences fetal neurodevelopment. The results are consistent with previous studies that have identified correlations between maternal stress, increased cortisol levels, and neurodevelopmental impairments (Mulder et al., 2002; Van den Bergh et al., 2005). The prevalence of grief, sadness, and anger indicates profound psychosomatic transmission pathways influencing fetal neuroendocrine development.

The noted male predominance (3:1 ratio) corresponds with international findings indicating a greater incidence of NDD in boys [18]. Homoeopathic treatment, focusing on individualization and totality, resulted in quantifiable enhancements in behavior and cognition in 73% of children, aligning with prior observational studies [19].

Maternal grief and repressed anger seem especially pertinent on an emotional level [20]. Remedies such as Natrum muriaticum, Ignatia amara, and Staphysagria address these emotional conditions, indicating potential transgenerational therapeutic effects. Homoeopathy's constitutional correction may influence genetic predispositions, aligning with the miasmatic theory of chronic disease susceptibility [19].

Although the sample size constrained statistical significance, the study indicates notable clinical relevance. Future multicentric prospective studies with psychometric and neuroimaging validation are advised.

5. CONCLUSION

This study elucidates a definitive correlation between maternal mental health during gestation and neurodevelopmental outcomes in offspring. Mothers of children subsequently diagnosed with neurodevelopmental disorders, including autism, ADHD, cerebral palsy, and global developmental delay, frequently reported emotional disturbances such as grief, anger, sadness, and fear. These results underscore the significance of maternal psychological well-being during gestation in influencing the child's neurological and behavioral development.

The findings further illustrate the efficacy of personalized homeopathic treatment in addressing neurodevelopmental disorders. Remedies like Silicea terra, Calcarea carbonica, Natrum muriaticum, and Carcinosin helped kids with behavior, attention, and communication skills get better [21,22]. While statistical significance was constrained by sample size, the consistent clinical improvement observed in the majority of cases endorses the holistic and individualized methodology of homeopathy for chronic conditions.

In general, this study shows that checking and counseling on the emotional health of mothers should be a regular part of prenatal care [23–28]. Addressing psychological stress during pregnancy through personalized homeopathic support may function as both a preventive and therapeutic strategy in mitigating the risk of neurodevelopmental disorders [29]. Future extensive and longitudinal studies are essential to corroborate these findings and to investigate the underlying mechanisms connecting maternal emotions, fetal development, and homeopathic intervention.

6. CONFLICT OF INTEREST

The author declares no conflict of interest related to this study.

7. RESEARCH ETHICS AND PATIENT CONSENT

The author of this manuscript was the treating clinician and the Informed consent was obtained from all patients included in this study. Each patient agreed to the publication of their anonymized case details and images for academic and research purposes.

8. ACKNOWLEDGMENT

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