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POSTER PRESENTATION

Trajectories of maternal depression over an eight year period after childbirth: An analysis of the all our families cohort in Canada

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Background and Objective: Mental health conditions can significantly affect maternal health during the perinatal period and beyond and impact child development. Existing research on women's health has focused mainly on the first year postpartum, with limited research beyond one year. This study aims to identify trajectories of maternal depression from the second trimester of pregnancy through eight years postpartum and its associated factors.

Methods: A secondary analysis was conducted on 936 mothers from the Albertan All Our Families (AOF) cohort, who completed questionnaires across eight data time points, spanning from pregnancy to eight years postpartum (at 24 and 36 gestational weeks, and at 4, 12, 36, 60, and 96 months postpartum). The Edinburgh Postnatal Depression Scale (EPDS) was used to measure depression for the first four time points, while the Center for Epidemiologic Studies Depression Scale (CES-D) was used for the last four. Depression scores at each time point were standardized as Z-scores to allow for the continuity of measurement of depression with the two scales. Latent Class Growth Analysis (LCGA) was performed to identify the trajectories of maternal depression over eight-time points. Latent class assignments were further analyzed using multivariable multinomial regression to identify the factors associated with trajectories.

Results: The three classes were characterized and named based on clinical relevance and the observed patterns of symptomatology: persistent depression, moderate or stable depression, low or declining depression. Class 1: Persistent High Depression, this class shows consistently elevated depression scores over the study period (Z score reached up to more than 1). This trajectory suggests a subgroup experiencing chronic, severe depression, potentially requiring sustained psychological or pharmacological interventions. This group represents individuals at high clinical risk for poor outcomes. Class 2: Moderate Stable Depression, this class shows depression scores around the mean (Z = 0) that remain stable throughout the study period. This pattern indicates a subgroup with moderate but stable depression symptoms, possibly reflecting manageable or subclinical levels of depression that might respond well to targeted, lower-intensity interventions. Class 3: Low Declining Depression, this class demonstrates initially low depression scores that decline further over time, approaching minimal or negligible levels by the later time points (Z score reached up to less than -0.5). This trajectory suggests a resilient subgroup with low symptom burden and potentially protective factors mitigating the impact of depressive symptoms over time. Significant predictors of depression trajectories included social support (OR=0.40, 95% CI=0.25, 0.65), history of mental health (OR=3.86, 95% CI=1.26, 11.83), being younger than 35 years (OR=0.46, 95% CI=0.22, 0.96), and having an increased anxiety score (OR= 2.37, 95% CI=1.04, 5.36).

Conclusions: Elevated depression continues to be a concern among women up to eight years after childbirth. These findings extend the current understanding that depressive symptoms are mostly burdensome in the first year postpartum and suggest that monitoring/support should be extended beyond that period. The findings highlight the importance of timely monitoring and intervening in mothers for depression beyond the postpartum period.

Biography

Kamala Adhikari is a leading scientist and academician in population health, affiliated with Alberta Health Services and the Department of Community Health Sciences at the University of Calgary, Canada. Her research focuses on applying epidemiological, data science, and implementation science methods to generate robust evidence that informs health interventions, policies, and practices. With extensive experience in population health, Dr. Adhikari is committed to improving public health outcomes through data-driven solutions and innovative research. Her work contributes to advancing evidence-based strategies that enhance healthcare systems and address critical health challenges at local, national, and global levels.

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