## The Role of Nutrition, Intimate Partner Violence and Social Support in Prenatal Depressive Symptoms in Rural Ethiopia: Community Based Birth Cohort Study

Yitbarek Kidane Woldetensay, <sup>1,3,4,5</sup> Tefera Belachew<sup>5</sup>, Hans Konrad Biesalski, <sup>3,4</sup> Shibani Ghosh<sup>2</sup>, Maria Elena Lacruz<sup>7</sup>, Veronika Scherbaum, <sup>3,4</sup> Eva Johanna Kantelhardt<sup>\*6,7</sup>

<sup>1</sup>Tufts University, Freidman School of Nutrition Science and policy, Africa Regional office, Addis Ababa, Ethiopia

<sup>2</sup>Tufts University, Freidman School of Nutrition Science and policy, Boston, USA

<sup>3</sup>Institute of Biological Chemistry and Nutrition (140a), University of Hohenheim, Stuttgart, Germany

<sup>4</sup>Food Security Center, University of Hohenheim, Stuttgart, Germany

<sup>5</sup>Department of Population and Family Health, College of Health Sciences, Jimma University, Ethiopia

<sup>6</sup>Department of Gynecology, Faculty of Medicine, Martin-Luther University, Halle, Germany

<sup>7</sup> Institute of Medical Epidemiology, Biostatistics, and Informatics, Faculty of Medicine, Martin-Luther University, Halle, Germany

\*corresponding author [Yitbarek Kidane Woldetensay, E-mail: yitbarek.woldetensay@gmail.com]

## Abstract

**Background:** Depression during pregnancy has far-reaching adverse consequences on mothers, children and the whole family. The magnitude and determinants of prenatal depressive symptoms in low-resource countries are not well established. This study aims to describe the prevalence of prenatal depressive symptoms and whether it is associated with maternal nutrition, intimate partner violence and social support among pregnant women in rural Ethiopia.

**Methods:** This study is based on the baseline data from a large prospective, community-based, birth cohort study conducted in the South Western part of Ethiopia from March 2014 to March 2016. A total of 4,680 pregnant women were recruited between 12 and 32 weeks of gestation. Depressed mood was assessed using the Patient Health Questionnaire (PHQ-9) scale and a cut off of >8 was taken to define prenatal depressive symptoms. Data collection was conducted electronically on handheld tablets and submitted to a secured server via an internet connection. Bivariate and multivariate logistic regression analyses were computed using IBM SPSS version 20 software.

**Result:** The community based prevalence of depressive symptoms during pregnancy was 10.8% (95%Confidence Interval (CI): 9.92-11.70). Adjusting for confounding variables, moderate household food insecurity (OR 1.73; 95% CI: 1.29 - 2.32), severe household food insecurity (OR 7.40; 95% CI: 5.42 - 10.09), anaemia (OR= 1.32; 95% CI: 1.06 - 1.65) and intimate partner violence (OR 3.50; 95% CI: 2.41 - 5.08) were significantly associated with prenatal depressive symptoms. On the other hand, good social support from friends, families and husband reduced the risk of prenatal depressive symptoms by 37% (OR 0.63; 95% CI: 0.51 - 0.79).

**Conclusion:** Prenatal depressive symptomatology is rather common during pregnancy in rural Ethiopia. In this community based study, household food insecurity, anaemia and intimate partner violence were significantly associated with prenatal depressive symptoms. Good maternal social support from friends, families and spouse was rather protective. The study highlights the need for targeted screening for depression and intimate partner violence during pregnancy. Policies aimed at reducing household food insecurity, maternal anaemia and intimate partner violence during pregnancy may possibly reduce depression.

Key words: Prenatal depression, household food insecurity, anaemia, intimate partner violence, social support, PHQ-9, Ethiopia