



Letter to Editor

The clock inside: Unlocking maternal-fetal health with chrono-nutrition

Yogesh Kumar^{1*}, Om Prakash Dhakar², Ram Niwas¹, Ram Kumar Garg¹¹Teerthanker Mahaveer College of Nursing, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, India²All India Institute of Medical Science (AIIMS), Raipur, Chattisgarh, India**Keywords:** Chrono-nutrition, Circadian-rhythms, temporal-eating-patterns, Maternal, Fetal.**Received:** 25-04-2025; **Accepted:** 17-10-2024; **Available Online:** 28-05-2025

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Dear Sir,

I am writing to underscore the importance of integrating chrono-nutrition principles into maternal and fetal health guidelines. Chrono-nutrition, a burgeoning field that examines the relationship between temporal eating patterns, circadian rhythms, and metabolic health, offers promising avenues for optimizing outcomes during pregnancy and beyond. Integration of chrono-nutrition into maternal and fetal health strategies presents promising avenues for optimizing outcomes during pregnancy and beyond.¹⁻³

Importance and benefits of chrono-nutrition:

1. **Syncing with circadian rhythms:** Chrono-nutrition emphasizes aligning eating patterns with the body's natural circadian rhythms. This synchronization can positively influence physiological processes such as digestion, metabolism, and hunger regulation, contributing to overall maternal and fetal health.²
2. **Impact on fetal development:** During gestation, the fetus is exposed to maternal circadian rhythms, including temperature, metabolites, and hormones. These cues play a crucial role in fetal development. Chrono-nutrition recognizes the importance of providing timed nutritional cues to support optimal growth and development.^{1,4}
3. **Transition to postnatal life:** After birth, the abrupt change in circadian milieu is compensated by maternal

milk, whose composition varies according to the mother's circadian rhythms. Chrono-nutrition acknowledges this transition and emphasizes the importance of breastfeeding, which aligns with the infant's biological clock.⁵

4. **Weight management and metabolism:** By adhering to chrono-nutritive principles, individuals can manage weight more effectively by regulating eating behavior according to circadian rhythms. This approach can enhance metabolic efficiency and promote healthy weight maintenance, especially during pregnancy and postpartum periods.²
5. **Preventing stunting and premature birth:** Optimal nutrition, particularly during pregnancy and the first 24 months of a child's life, is critical for preventing stunting and other adverse outcomes. Chrono-nutrition aligns with the body's biological clock, supporting maternal and fetal health and reducing the risk of premature birth and stunting.⁶

Incorporating chrono-nutrition principles into maternal and fetal health guidelines can offer significant benefits, promoting healthier outcomes for both mother and child. Further research and integration into prenatal care can enhance awareness and implementation of chrono-nutritive strategies, ultimately improving the well-being of pregnant individuals and their offspring.

*Corresponding author: Yogesh Kumar
Email: yogesh.dhakar@gmail.com

In conclusion, chrono-nutrition, an emerging field in maternal-fetal health, focuses on aligning eating patterns with the body's circadian rhythm. During pregnancy, maternal circadian cues influence fetal development. Chrono-nutrition emphasizes meal timing, frequency, and content to optimize maternal and fetal health. Benefits include weight management, efficient metabolism, and improved nutrient absorption. Aligning diet with circadian rhythms may prevent adverse outcomes like premature birth and stunting, promoting optimal maternal and child health.

1. Conflict of Interest

None.

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Cite this article: Kumar Y, Dhakar OP, Niwas R, Garg RK. The clock inside: Unlocking maternal-fetal health with chrono-nutrition. *Indian J Obstet Gynecol Res*. 2025;12(2):358–359.