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Insufficient Nutrition During Fetal Development May Lead to Early Menopause

New study demonstrates association between prenatal exposure to famine and early reproductive aging

CLEVELAND, Ohio (December 5, 2018)—Previous studies have demonstrated that fetal malnutrition can lead to adult chronic disorders such as type 2 diabetes and coronary artery disease. A new study out of China now suggests that it also can lead to early menopause and premature ovarian failure. Results are published online today in *Menopause*, the journal of The North American Menopause Society (NAMS).

Infants are especially sensitive to changes in their environment while still in the womb, during their earliest stages of development. It has already been documented that the development of the hypothalamic-pituitary-gonadal axis during the fetal stage plays a critical role in adulthood reproductive health. Natural menopause is a milestone of ovarian aging that results in the end of a woman's reproductive years.

Although several studies have investigated the association between famine exposure in early life and risk of various metabolic diseases in adulthood, the association with reproductive aging was not evaluated. This new study involving nearly 2,900 Chinese women specifically sought to address the effect of early life exposure to famine on age at menopause.

The study concluded that prenatal famine was associated with a higher risk of early menopause (age younger than 45 years), as well as a higher risk of premature ovarian failure. Although study participants were born during China's infamous famine occurring between 1956 and 1964, the study provides valuable insights into the benefits of proper nutrition during early life stages for women of any culture.

Study results appear in the article "Early life exposure to famine and reproductive aging among Chinese women."

"The findings that natural menopause occurs earlier after prenatal famine exposure suggests that food deprivation during early fetal life affects how long the future ovaries function," says Dr. JoAnn Pinkerton, NAMS executive director. "For those women, if they are not taking estrogen therapy until the average age of menopause, their early menopause could be associated with increased risk of heart disease, osteoporosis, depression, and memory changes and changes in vaginal and sexual health."

For more information about menopause and healthy aging, visit www.menopause.org.

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Founded in 1989, The North American Menopause Society (NAMS) is North America's leading nonprofit organization dedicated to promoting the health and quality of life of all women during midlife and beyond through

an understanding of menopause and healthy aging. Its multidisciplinary membership of 2,000 leaders in the field—including clinical and basic science experts from medicine, nursing, sociology, psychology, nutrition, anthropology, epidemiology, pharmacy, and education—makes NAMS uniquely qualified to serve as the definitive resource for health professionals and the public for accurate, unbiased information about menopause and healthy aging. To learn more about NAMS, visit www.menopause.org.