As Menopause Approaches, Fluctuating Estrogen Increases Sensitivity to Stress, Depression

CLEVELAND, Ohio (November 4, 2015)—If you’re feeling a little blue during the transition to menopause, there’s good reason, according to a new study being reported online today in *Menopause*, the journal of The North American Menopause Society (NAMS). The study from the Department of Psychiatry at the University of North Carolina at Chapel Hill suggests that the estradiol (a form of estrogen) fluctuation that is common during the menopausal transition may enhance emotional sensitivity to psychosocial stress. When combined with a very stressful life event, this sensitivity is likely to contribute to the development of a depressed mood.

It is generally accepted within the medical community that women are at greater risk to suffer from depression than men. Some studies show the risk is twice as great for women vs. men to suffer a major depressive disorder (MDD). It has been previously suggested that the greater risk is largely due to depressive episodes that are tied to reproductive events, such as perinatal depression and premenstrual dysphoric disorder, when hormones are in greater flux. In addition, the menopausal transition and early postmenopausal period are times of particularly increased vulnerability to depression for women, with rates of MDD and clinical elevations in depressive symptoms doubling or even tripling compared to premenopausal and late postmenopausal rates. A substantial proportion of women—between 26% and 33%—will develop clinically significant depressive symptoms within the context of perimenopausal hormonal flux.

The common physiological change occurring during the menopausal transition is extreme variability in estradiol concentrations, thus prompting the 12-month placebo-controlled randomized trial evaluating the mood and cardiovascular benefits of transdermal estradiol in perimenopausal women. The findings from the placebo group found that, in general, estradiol variability led to the development of depressive symptoms, as well as greater anger/irritability and feelings of rejection. More specifically, the findings suggest that perimenopausal estradiol fluctuation may increase women’s sensitivity to social rejection, and when this sensitivity is combined with psycho-social stressors such as divorce or bereavement, women are particularly vulnerable to developing clinically significant depressive symptoms. Of note, however, is that the effect of estradiol variability on mood is not the same in all women and, if a severe life stress did not occur, estradiol variability did not lead to depression. Very severe life stresses were
defined and included divorce or separation, serious illness of a close relative or friend, significant current financial issues, physical or sexual abuse or assault, significant arrest of self or loved one.

“These results provide tremendous insight for practitioners. Clinicians need to understand the impact of perimenopausal hormonal fluctuations and the degree of stressful events that a woman is experiencing to determine the best treatment options when a middle-aged woman complains of depression or exaggerated irritability,” says NAMS Executive Director JoAnn Pinkerton, MD, NCMP. “This study provides a foundation for future studies to evaluate the value of psycho-social interventions, such as cognitive therapies, to lessen the effect of major life events, as well as the use of estrogen therapy during perimenopausal and menopausal stressful times.”

The article, “Estradiol variability, stressful life events, and the emergence of depressive symptomatology during the menopausal transition,” will be published in the March 2016 print edition of *Menopause*.

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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](http://www.menopause.org).