Hops for Menopausal Vasomotor Symptoms: Mechanisms of Action

Fatemeh Abdi¹, Hamid Mobedi², Nasibeh Roozbeh³

¹Students’ Research Committee, Nursing and Midwifery Faculty, Shahid Beheshti University of Medical Sciences, Tehran, Iran,
²Biomaterials Department, Iran Polymer and Petrochemical Institute, Tehran,
³Mother and Child Welfare Research Center, Hormozgan University of Medical Sciences, Bandar Abbas, Iran

Menopause is a critical stage of women’s life associated with various complaints and distresses. Vasomotor symptoms (VMS), such as hot flushes, night sweats, sleep disturbances, and fatigue, are the most common menopause symptoms affecting about 50% to 80% of middle-aged women. Obviously, these symptoms, resulting from estrogen deficiency during menopause, can exert negative effects on women’s health and quality of life and thus require to be managed through approaches such as hormone replacement therapy (HRT). Many herbal treatments for menopause symptoms contain and its components such as 8-prenylnaringenin, 6-PN, isoxanthohumol and xanthohumol. Recent in-vivo studies have highlighted the ability of 8-prenylnaringenin to reduce serum-luteinizing hormone (LH) and follicle-stimulating hormone (FSH), to increase serum prolactin levels and uterine weight, and to induce vaginal hyperplastic epithelium. Previous research has shown that hops extract can strongly bind to both estrogen receptors, stimulate alkaline phosphatase activity in Ishikawa cells, and upregulate presenelin-2 and progesterone receptor mRNA in Ishikawa cells. Numerous clinical trials have documented significant reductions in the frequency of hot flushes following the administration of hop-containing preparations. Nevertheless, further clinical trials with larger sample size and longer follow-up are warranted to confirm such benefits.

**Key Words:** Hormone replacement therapy, Hot flashes, Humulus, Menopause