## Aromatherapy Improves Olfactory Acuity and Sexual Dysfunction in Postmenopausal Women

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#### **Dear Editor**

Dear Editor, we read the Zahira et al., article with great interest. The authors described the role of aromatherapy (*citrus aurantium*) on sexual function in postmenopausal women (1). Aromatherapy is a simple, safe and cost-effective treatment modality commonly used in naturopathy system of medicine (2) and documented to be effective in reducing climacteric symptoms such as hot flashes, depression and sexual dysfunction (3). Bio-active components like Limonene, mycrene, linalool in *citrus aurantium* reduces anxiety, depression in post-menopausal women by reducing stress hormones and also increases sexual function by stimulation of beta-endorphins (1).

We would like to suggest and add-on yet another benefit and mechanism through which aromatherapy is beneficial in post-menopausal women. Menopause, the normal aging process in women, is associated with various physiological and psychological changes. Reduced ovarian reserve, decrease in estrogen levels are the main causes behind these physiological changes. One of the major physiological changes is the reduction in acuity of smell (4). Reduction in Olfactory acuity of smell is positively correlated with sexual dysfunction (5). Olfactory system modulates vegetative, visceral and sexual activity in humans (6). Interestingly, olfaction plays an important role in intimate relationship and sexual communication. Olfactory cues that result in hormonal changes and stimulation of hypothalamus that affects sexual function and desire (7). And also, reproductive hormone kisspeptin enhances brain activity in response to olfaction. The brain regions enhanced by kisspeptin correspond to areas within the olfactory and limbic systems that govern sexual behavior (8). Aromatherapy enhances communication between olfaction, limbic system and reticular formation strongly influences human behavior. The limbic system and reticular formation of the brain analyze the particular aroma which integrates emotions and behavior. Aromatherapy enhances sexual function by increasing olfactory acuity. However future studies with large samples are required to evaluate the serum hormonal levels.

### **Conflict of Interests**

Authors have no conflict of interests.

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#### References

- Abbaspoor Z, Sharifipour F, Siahposh A, Nazaralivand R, Mohaghegh Z, Faal Siahkal S. Effects of Aromatherapy With Citrus Aurantium Lavender on Sexual Function of Postmenopausal Women: A Randomized Controlled Trial. J Family Reprod Health. 2022;16(2):147-154.
- Deenadayalan B, Venugopal V, Maheshkumar K, Akila A, Yogapriya C. Effect of Topical Application of Tea Tree Oil (Melaleuca alternifolia) on Hand Warts. Journal of Clinical & Diagnostic Research. 2022;16(1).
- Bagetta G, Morrone LA, Rombolà L, Amantea D, Russo R, Berliocchi L, Sakurada S, Sakurada T, Rotiroti D, Corasaniti MT. Neuropharmacology of the essential oil of bergamot. Fitoterapia. 2010;81(6):453-61.
- Caruso S, Grillo C, Agnello C, Di Mari L, Farina M, Serra A. Olfactometric and rhinomanometric outcomes in postmenopausal women treated with hormone therapy: a prospective study. Hum Reprod. 2004;19(12):2959-64.
- Bendas J, Hummel T, Croy I. Olfactory Function Relates to Sexual Experience in Adults. Arch Sex Behav. 2018 Jul;47(5):1333-1339.

- Singh AK, Agarwal M, Jain N, Garg N, Verma P, Mittal S. Effect of menopause on olfactory function. Natl J Physiol Pharm Pharmacol 2019;9(7):621-625.
- Blomkvist A, Izzo G, Vaccaro MG, La Vignera S, Brunetti A, Aversa A, Liuzza MT. The Scent of Monogamy: Self-Reported Olfactory Function Predicts Sexual Well-Being and Infidelity in an Italian Population. Archives of sexual behavior. 2022;51(6):2879-89.
- Yang L, Demetriou L, Wall MB, Mills EG, Zargaran D, Sykes M, Prague JK, Abbara A, Owen BM, Bassett PA, Rabiner EA, Comninos AN, Dhillo WS. Kisspeptin enhances brain responses to olfactory and visual cues of attraction in men. JCI Insight. 2020;5(3):e133633.

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