
Day-to-day variability in female breast sensitivity to touch, temperature, and wetness

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Abstract

Skin' sensitivity to touch, temperature, and wetness across the female breast may vary during the menstrual cycle; yet only few studies performed sensory assessments over multiple days and with high frequency. The aim of this study was to evaluate with high frequency the day-to-day variability in female breast sensitivity to touch, temperature, and wetness during several, consecutive menstrual cycles occurring over a period of six months, in young healthy women.

Three young women (26 ± 1 y) characterised by normal menstrual cycles (ID1) or various contraceptive use (Intra Uterine Device, ID2; Vaginal Ring, ID3) and a male (acting as control, IDM; 36y) took part in this prospective study. During each visit, participants underwent well-established quantitative sensory testing of tactile, thermal, and wetness sensitivity at the breast (or chest) and at the xiphoidal process.

Data collection and analysis is ongoing. At the time of writing, women participants have been tested during 10 separate days. Preliminary analyses indicated that when considering e.g. warm sensitivity at the breast women presented greater day-to-day changes (variation=48%) than the male control (variation=18%). However, when considering tactile, temperature and wetness sensitivity altogether, we observed this trend only in 3 out the 10 stimuli applied to each participant.

Our preliminary observations support the feasibility of our approach and provide initial, albeit partial, support to the potential fluctuations in breast skin' sensitivity over the course of menstrual cycle. Completing our prospective data collection will help determining the repeatability of sensory fluctuations and their potential rhythmicity with menstrual cycles.

Keywords: Sensitivity, temperature, wetness, menstrual cycle, breast, perception

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