Premenstrual disorders and autonomic nervous system activity as an index reflecting mind and body interaction

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Up to 90% of reproductive-age women from all cultures and socioeconomic levels report experiencing myriad nonspecific, physical, emotional, behavioral, and cognitive symptoms in the late luteal phase. This pervasive condition is commonly known as premenstrual syndrome (PMS) or more severe PMS, premenstrual dysphoric disorder. Despite the inconclusive etiopathogenesis, altered function or even slight disorder of the autonomic nervous system—which plays a vital role in reflecting mind-body interaction and in maintaining homeostasis in the human internal environment—could induce physical and mental changes leading to complaints such as those reported with PMS and ultimately undermining a woman's overall health. A series of studies on women's health in my laboratory has measured heart rate variability and salivary chromogranin A as reliable, non-invasive electrophysiological and biochemical indexes of the sympatho-vagal activity, respectively, in eumenorrheic women who report varying degrees of PMS during the menstrual cycle. The author has also investigated the efficacy of therapeutic modalities, including aromatherapy, to alleviate PMS from the perspective of autonomic function. Based on the findings of the previous research, together with classic and contemporary literature, this presentation will discuss the extent to and the manner in which the menstrual cyclicity of autonomic nerve activity relates to PMS and the enigmatic conditions surrounding it. It will also cover the following topics as possible agents affecting susceptibility to PMS: vulnerability to stress, personality traits, socio-environmental stimuli and ethnicity. Through exploring the potential association between autonomic nervous system activity and the complex web of bio-psycho-social factors relating to PMS, the presentation will probe altered autonomic function as a viable cause or effect of PMS.