

Yoga can improve sperm motility, says CCMB-AIIMS study

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New Delhi, March 12 (India Science Wire): A collaborative study from the Centre for Cellular and Molecular Biology (CCMB), Hyderabad, and All India Institute Of Medical Sciences (AIIMS), New Delhi, has now shown that the traditional practice of yoga has positive effects on the quality of sperm. The beneficial effects have been correlated with epigenetic changes in the sperm.

Yoga-based lifestyle interventions (YBLI) are increasingly being offered as an adjunct to modern medicine. This pilot study, published in the journal [Andrologia](#), offers a first-of-its-kind analysis of the effect of YBLI in infertile men. In this study, after the practice of yoga, infertile men have demonstrated reduction in seminal oxidative stress with improvement in sperm motility, indicating its fertilizing potential.

Yoga practices in this study included physical movements and postures (asanas), breathing techniques (pranayama), and meditation (dhyana) for 1 hour a day for 21 days. This led to improved sperm quality in the patients enrolled in the study.

Genetic system of organisms is heavily influenced and regulated by environmental factors. Unlike the DNA sequence, which an individual is born with, epigenetic changes are dynamic and reversible in response to the environmental influences. Unhealthy lifestyle and social habits are known to have adverse effects on the sperm, resulting in a decline in male reproductive health in recent years.

Using state-of-the-art DNA sequencing analysis, the study demonstrated a resetting of the sperm methylome (pattern of chemical changes called DNA methylation) in the yoga practitioners. The methylome, known to directly control the expression of genes, in this case is found to be associated with changes at nearly 400 genes, including several genes that are known play a role in male fertility, spermatogenesis and embryo implantation.

“The genes identified using the epigenomic approach in this study will be useful candidates for further focused investigations. As this pilot study was carried out

on a small number of individuals, a larger scale investigation and further research on the effects of YBLI on male infertility will be necessary”, says Dr. Rakesh Mishra, Director, CSIR-CCMB.

Besides Dr. Mishra, the research team included Shilpa Bisht, Sofia Banu, Surabhi Srivastava, Rashmi U. Pathak, Rajeev Kumar and Rima Dada. (India Science Wire)

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Dr. Rakesh Mishra (2nd from R) with fellow researchers