

Indian & U.S Researchers study impact of Oral Contraceptives on Blood Pressure

These findings by India's IIT Madras & US University of Minnesota studies found that around 70% of female athletes took oral contraceptives

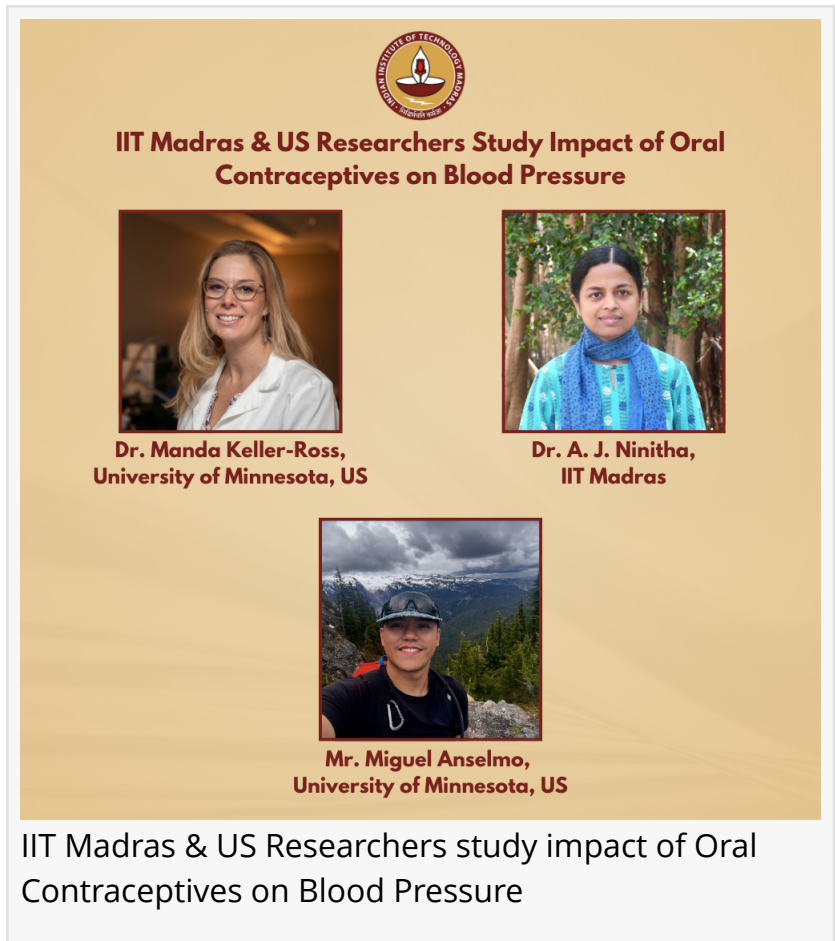
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EINPresswire.com/ -- Researchers from Indian Institute of Technology Madras (IIT Madras), the top-ranked Educational Institute in India, and the University of Minnesota, U.S., are studying the impact that oral contraceptives can have on the blood pressure response during dynamic exercise in women.

Certain oral contraceptives are known for increasing resting blood pressure but the exercise blood pressure response during large muscle exercise (like cycling or running) is not currently well-understood. In addition, research was equivocal on whether blood pressure was, indeed, influenced by hormonal fluctuations during the menstrual cycle.

The research team identified that both oral contraceptive use and general fluctuations in endogenous ovarian hormones (like estrogens) in young women (20-25 years of age), did not influence blood pressure with lower body exercise and activation of skeletal muscle sensory neurons, which are known to contribute to exaggerated blood pressure responses in people with cardiovascular diseases.

The lead investigators of this research included Dr. Manda Keller-Ross and Mr. Miguel Anselmo from the University of Minnesota, Minneapolis, U.S. and Dr. Ninitha A.J., Assistant Professor, Department of Biotechnology, IIT Madras. Dr. Ninitha A.J. received support through Science and



Engineering Research Board's 'Core Research' Grant while Dr. Manda Keller Ross was supported by the National Institutes of Health, U.S.

Their findings were published in reputed peer-reviewed journal: The American Journal of Physiology - Regulatory, Integrative and Comparative Physiology (<https://doi.org/10.1152/ajpregu.00017.2024>).

Elaborating on this research, Dr. Ninitha A.J. said, "Oral contraceptives are taken by women to prevent pregnancy, reduce acne, menstrual cramps, and risk of ovarian cysts. According to a study by Martin and colleagues, around 70% of female athletes took oral contraceptives at a point in their career and thus it is important to understand how they affect blood pressure. The findings of this study are of importance as it sheds light on the influence of oral contraceptives on blood pressure response to exercise in women."

Exercise can acutely increase blood pressure due to increased sympathetic nerve activity (fight or flight) from skeletal muscle sensory neurons known as 'Exercise Pressor Reflex' (EPR). The EPR results in an increase in blood flow from the heart to the skeletal muscle to meet the needs of the muscle. The EPR is known to be greater in males compared with premenopausal females and is known to be exaggerated in people with cardiovascular disease.

Further, Dr. Manda Keller-Ross added, "We have little information on how the EPR changes in women across the life span. Menopause, the cessation of hormone production in the ovaries, occurs at around 50 years old and cardiovascular risk increases in women throughout and after the menopause transition. The next step of this work is to determine if the EPR is a contributing factor to the cardiovascular risk in menopausal females."

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ABOUT IIT MADRAS

Indian Institute of Technology Madras (IITM) was established in 1959 by the Government of India as an 'Institute of National Importance.' Students from 18 countries are enrolled here. IITM has been ranked No.1 in the 'Overall' Category for the sixth consecutive year in India Ranking 2024 released by National Institutional Ranking Framework, Ministry of Education, Govt. of India. The Institute has also been ranked No.1 in the 'Engineering Institutions' category in the same Rankings for nine consecutive years – from 2016 to 2024.

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