INTRODUCTION

• Protein turnover, the rate of muscle protein synthesis and breakdown, is highly correlated with nutrition needs.¹
• Elevated progesterone in the luteal phase of the eumenorrheic (EUM) menstrual cycle increases protein oxidation, whereas elevated estrogen in the follicular phase promotes protein synthesis.²
• Exogenous hormones from oral contraceptives (OC) and intrauterine devices (IUD) may influence rates of protein turnover differently than EUM menstrual cycle.³
• Data are limited in OC users and do not exist in IUD users.³

OBJECTIVE

Evaluate the modulatory effects of the menstrual cycle and hormonal contraception on whole body protein turnover in an active female population.

METHODS

RESULTS

HYPOTHESES

1. Females using hormonal IUDs will have similar protein turnover rates compared to EUM females and both groups will have lower protein turnover than females using OCs.
2. Protein turnover will be increased in the luteal phase/high hormone phase compared to follicular phase/low hormone phase.

PARTICIPANTS

40 Healthy, Active Adult Females

CONCLUSION

• Despite no changes between menstrual cycle phase, N concentration was 6% higher in the low hormone phase for OC users compared to EUM.
• Protein intake may need to be increased in the low hormone phase for OC users and in the luteal phase for EUM females.

REFERENCES


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