

EVALUATING THE EFFECTS OF ORAL CONTRACEPTIVE USE ON BIOMARKERS AND BODY COMPOSITION DURING A COMPETITIVE SEASON IN COLLEGIATE FEMALE SOCCER PLAYERS

Brittany N. Bozzini^{1,2}, Bridget A. McFadden¹, Kirsty J. Elliott-Sale³, Paul A. Swinton⁴, and
Shawn M. Arent^{1,2}

¹Department of Exercise Science, University of South Carolina, Columbia, SC, USA

²IFNH Center for Health and Human Performance, Rutgers, The State University of New Jersey, New Brunswick, NJ, USA

³Department of Sport Science, Sport, Health and Performance Enhancement (SHAPE) Research Centre, Nottingham Trent University, Nottingham, UK

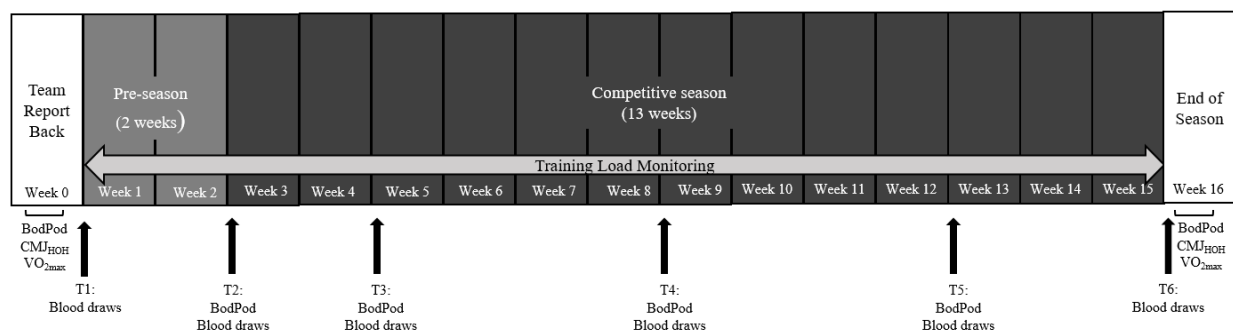
⁴School of Health Sciences, Robert Gordon University, Aberdeen, Scotland, UK

Corresponding Author Email: sarent@mailbox.sc.edu

The following supplementary file presents graphical output of the Bayesian hierarchical generalized linear models fitted to the biomarker data. Plots are separated into the following categories:

Fig.1: Experimental Design	pg. 2
Fig.2: Changes in Reproductive Biomarkers in Female Players across the Soccer Season	pg. 3-4
Fig.3: Changes in Stress & Inflammatory Biomarkers in Female Players across the Soccer Season	pg. 5
Fig.4: Changes in Biomarkers of Muscular Growth and Breakdown in Female Players across the Soccer Season	pg. 6
Fig.5: Changes in Iron Status in Female Players across the Soccer Season	pg. 6
Fig.6: Changes in Metabolic Biomarkers in Female Players across the Soccer Season	pg. 7

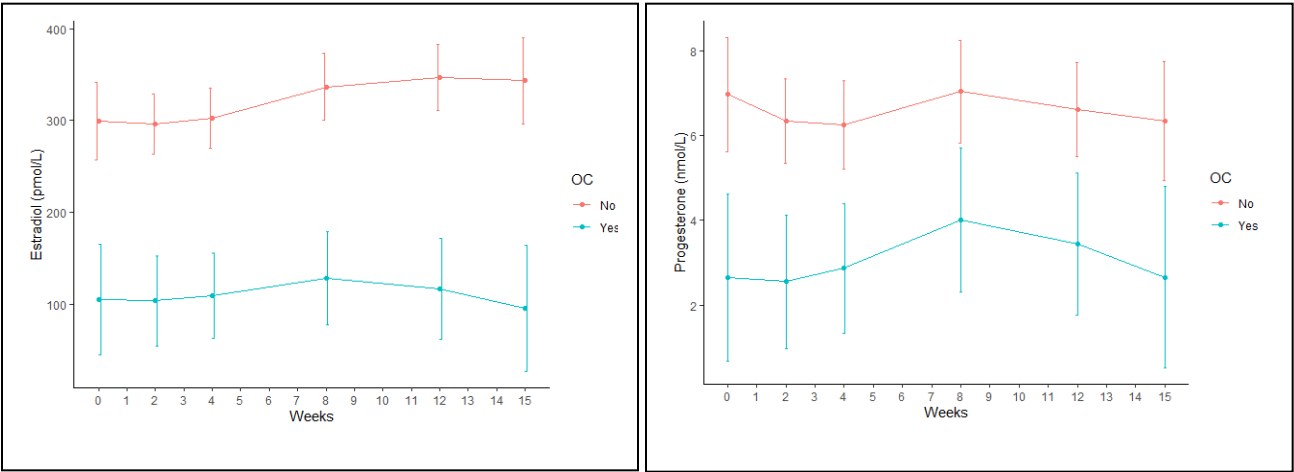
Fig.1: Experimental Design



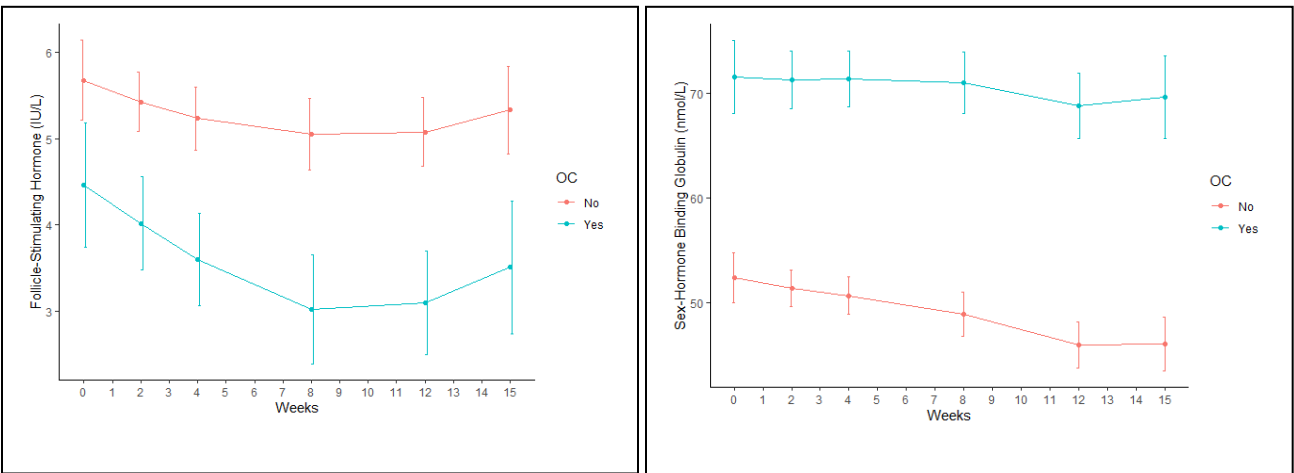
Timing of blood draws: T1=Before start of team pre-season training, T2=14 days after T1 (immediately after pre-season), T3=28 days after T1, T4=28 days after T3, T5=28 days after T4, and T6=21 days after T5

Fig.2: Changes in Reproductive Biomarkers in Female Players across the Soccer Season

Estradiol and Progesterone



Follicle-Stimulating Hormone and Sex-Hormone Binding Globulin



Free Testosterone and Total Testosterone

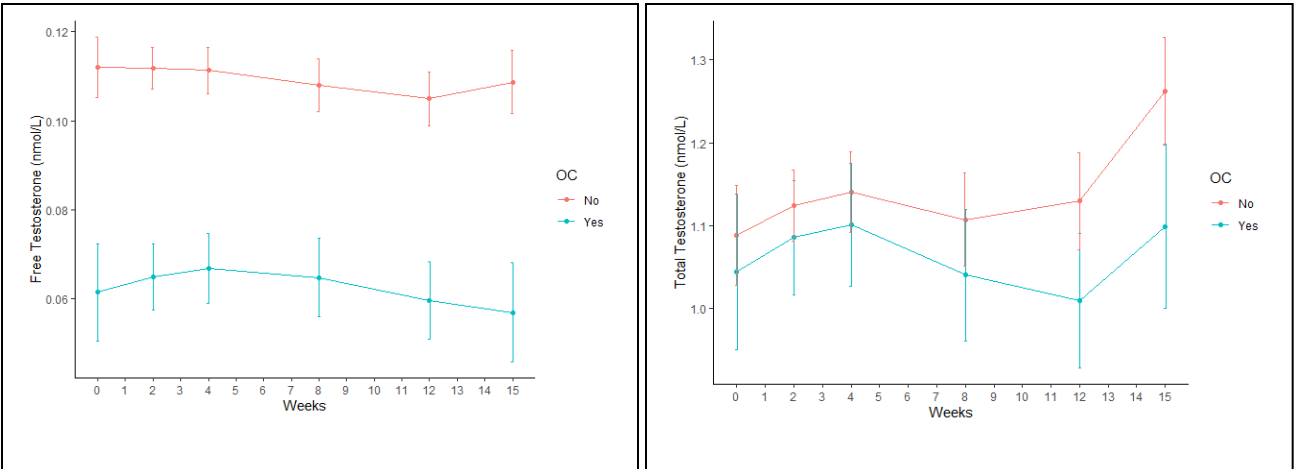


Fig.2: Changes in Reproductive Biomarkers in Female Players across the Soccer Season

Prolactin

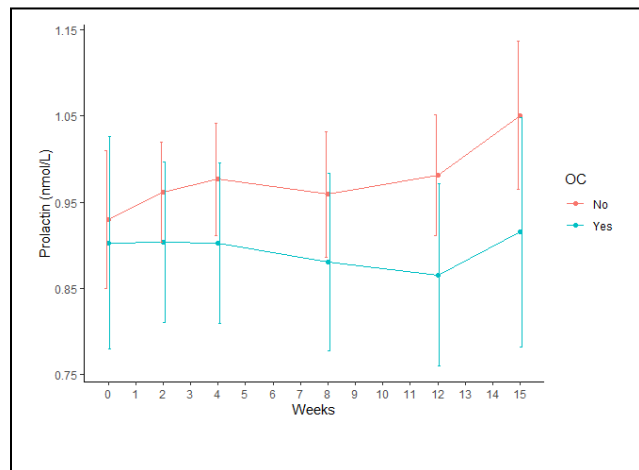
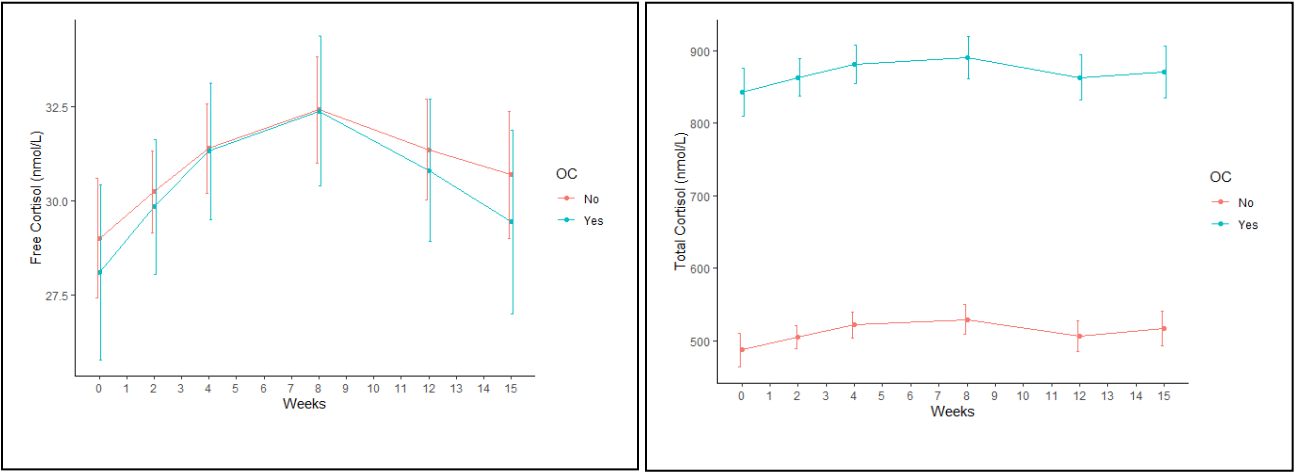
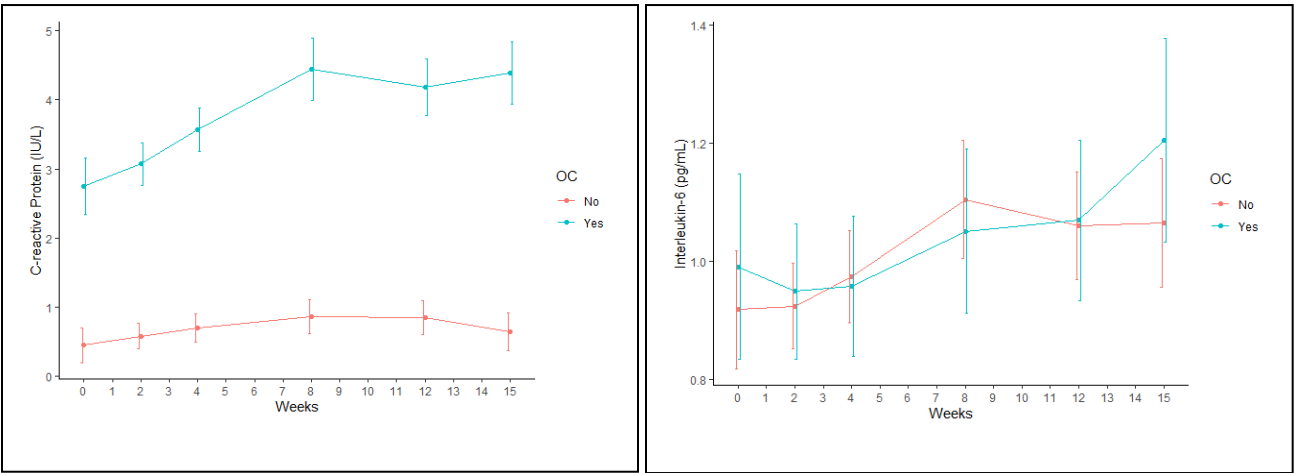


Fig.3: Changes in Stress & Inflammatory Biomarkers in Female Players across the Soccer Season

Free Cortisol and Total Cortisol



C-reactive Protein and Interleukin-6



Tumor Necrosis Factor- α

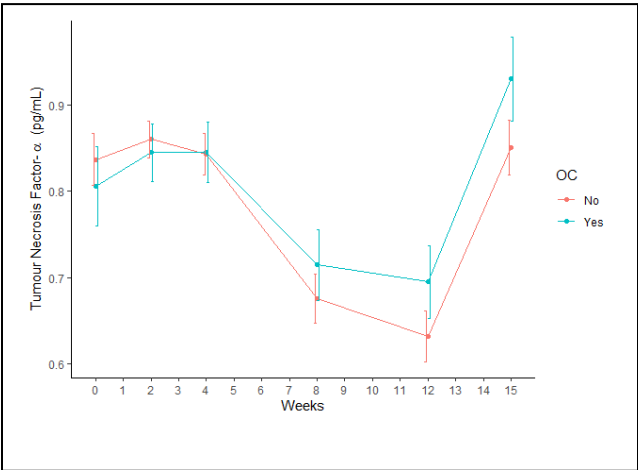
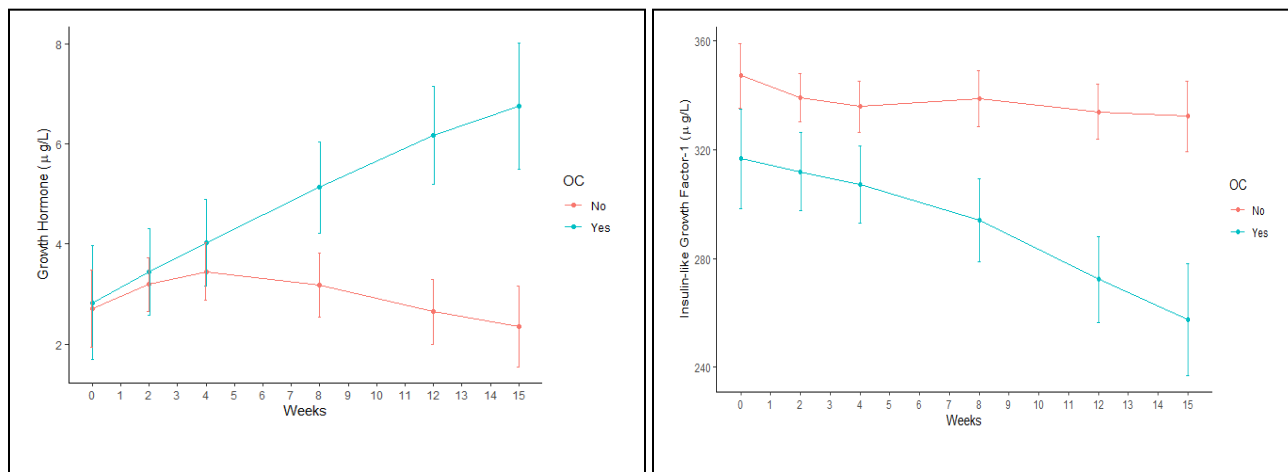


Fig.4: Changes in Biomarkers of Muscular Growth and Breakdown in Female Players across the Soccer Season

Growth Hormone and Insulin-like Growth Factor-1



Creatine Kinase

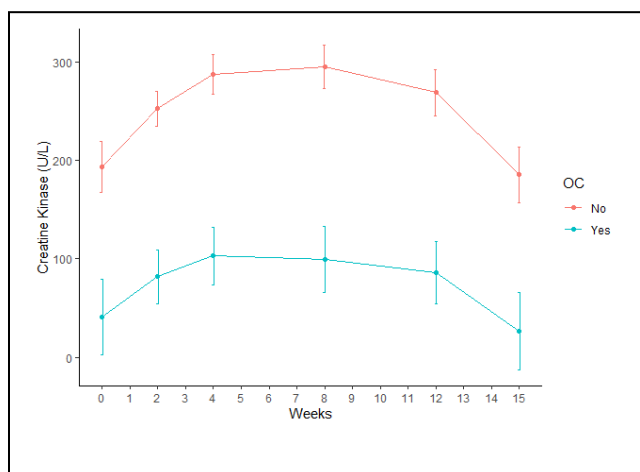
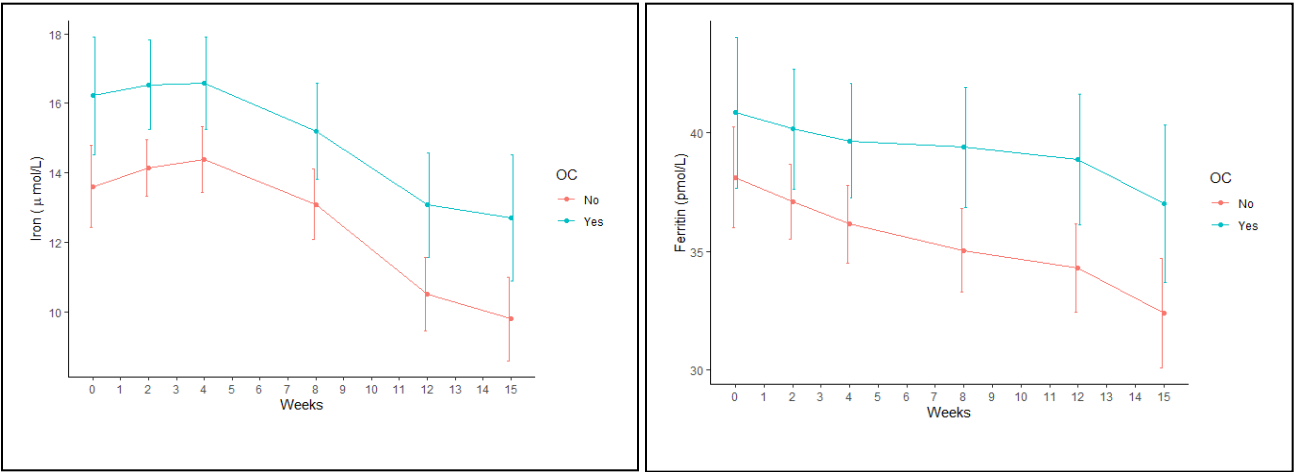
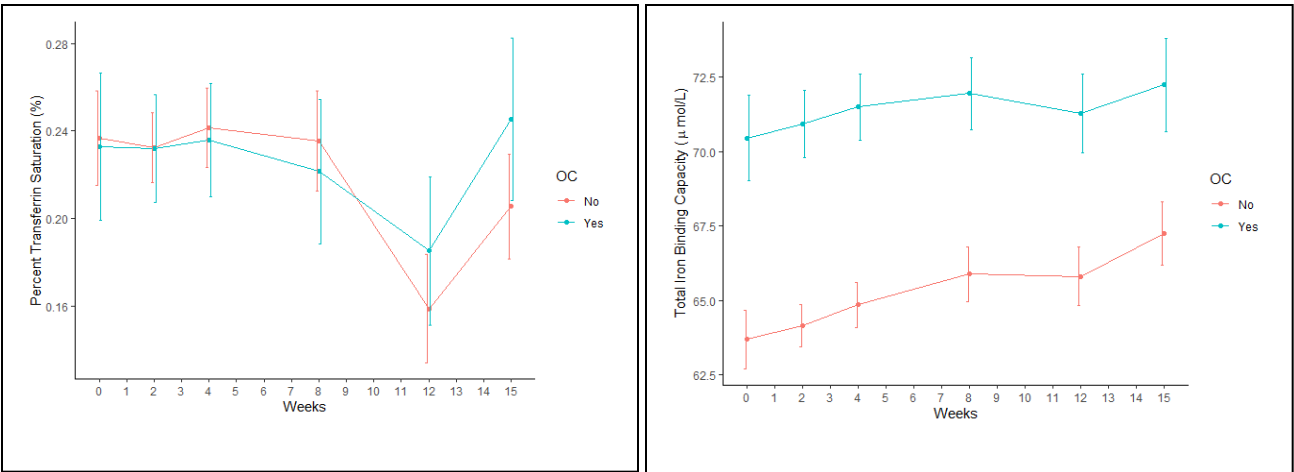


Fig.5: Changes in Iron Status in Female Players across the Soccer Season

Iron and Ferritin



Percent Transferrin Saturation and Total Iron Binding Capacity



Transferrin

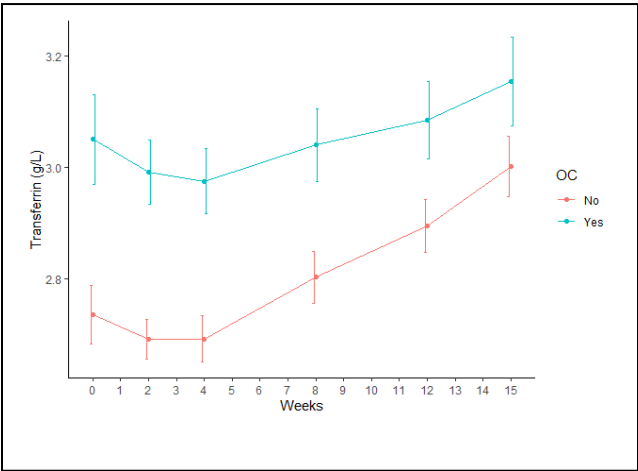
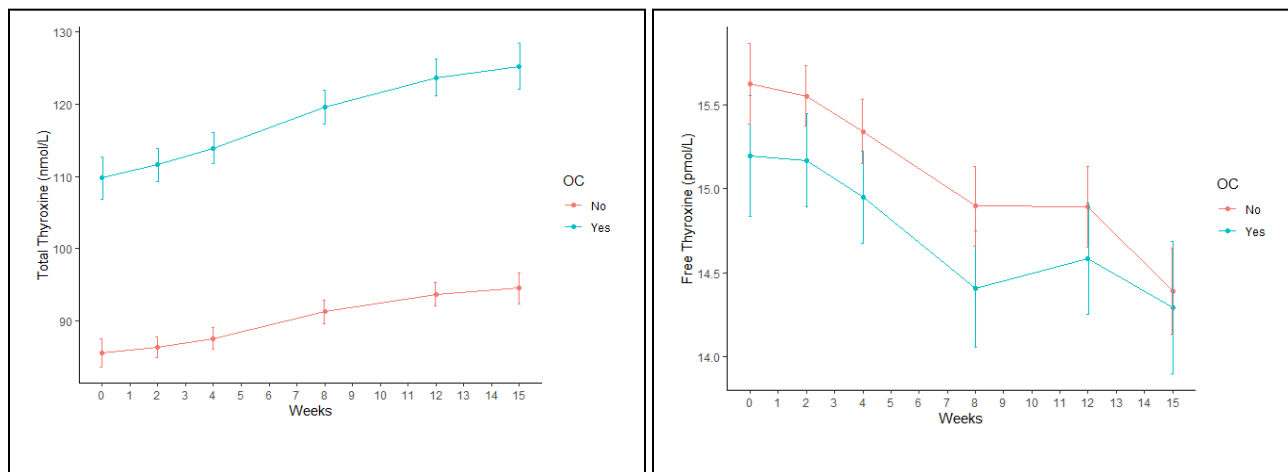
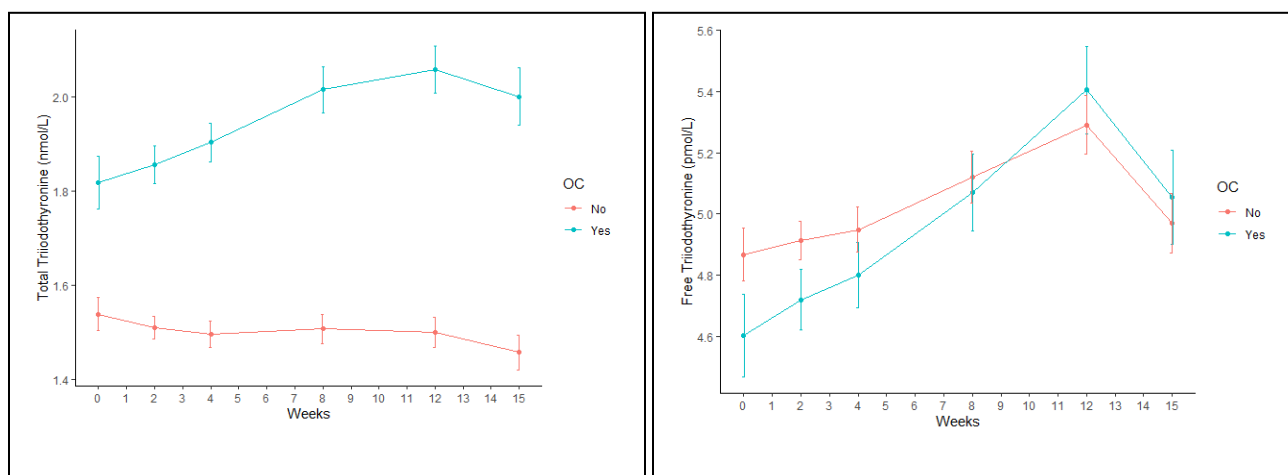


Fig.6: Changes in Metabolic Biomarkers in Female Players across the Soccer Season

Total Thyroxine and Free Thyroxine



Total Triiodothyronine and Free Triiodothyronine



Thyroid Stimulating Hormone and Leptin

