

## Characterisation of the gut microbiota in elite female futsal players throughout the season

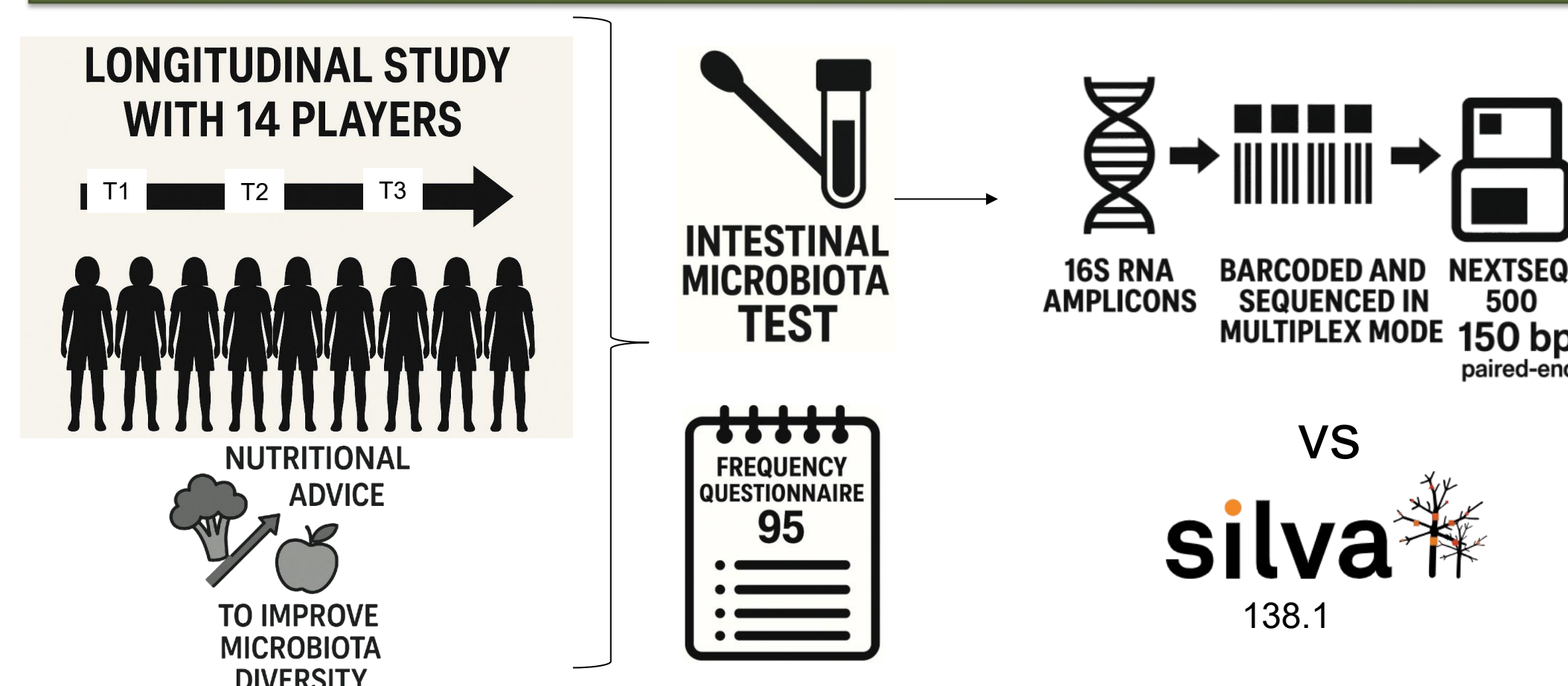
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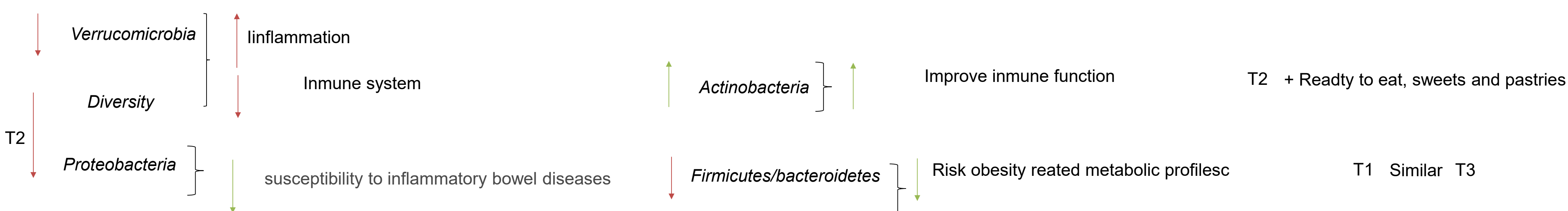
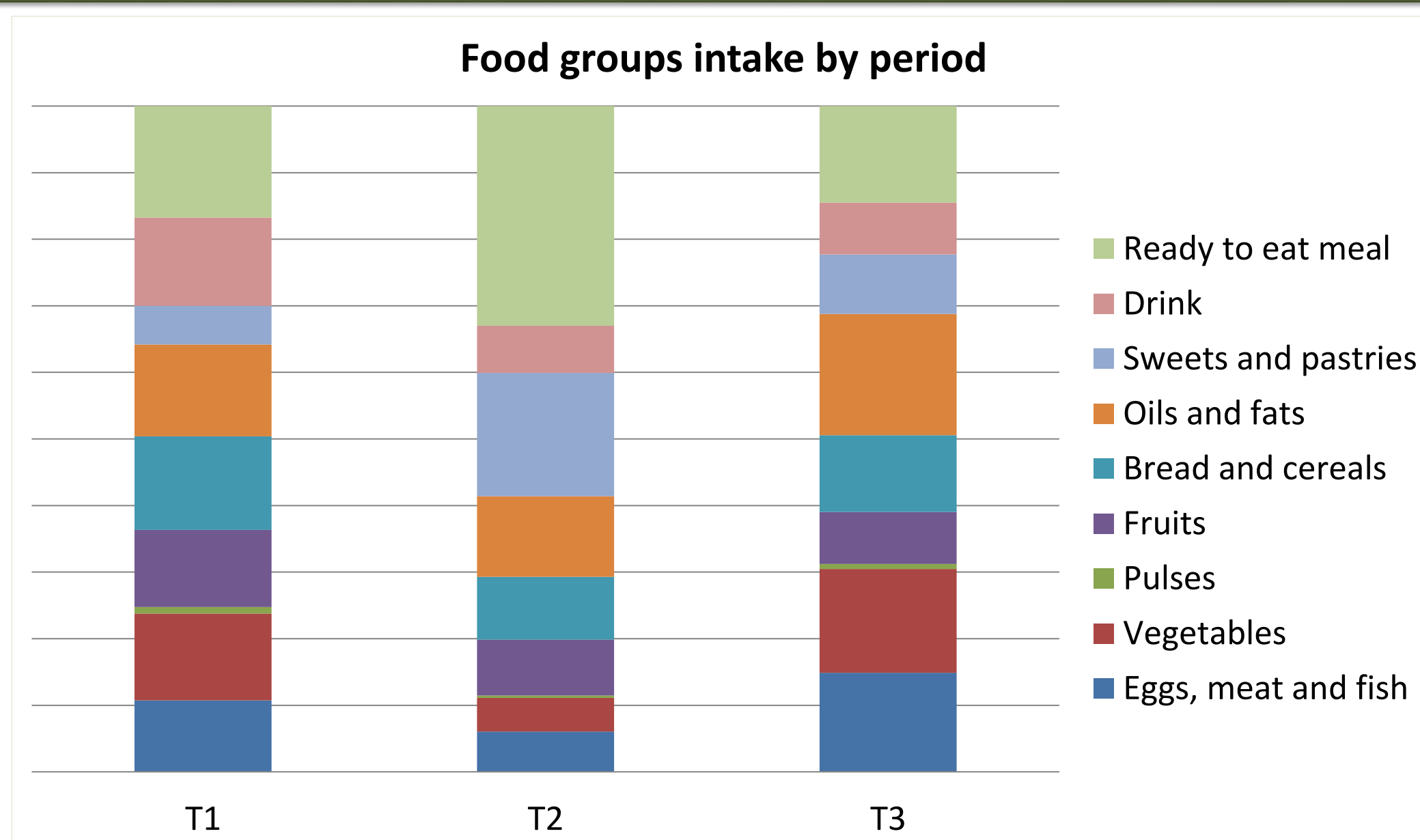
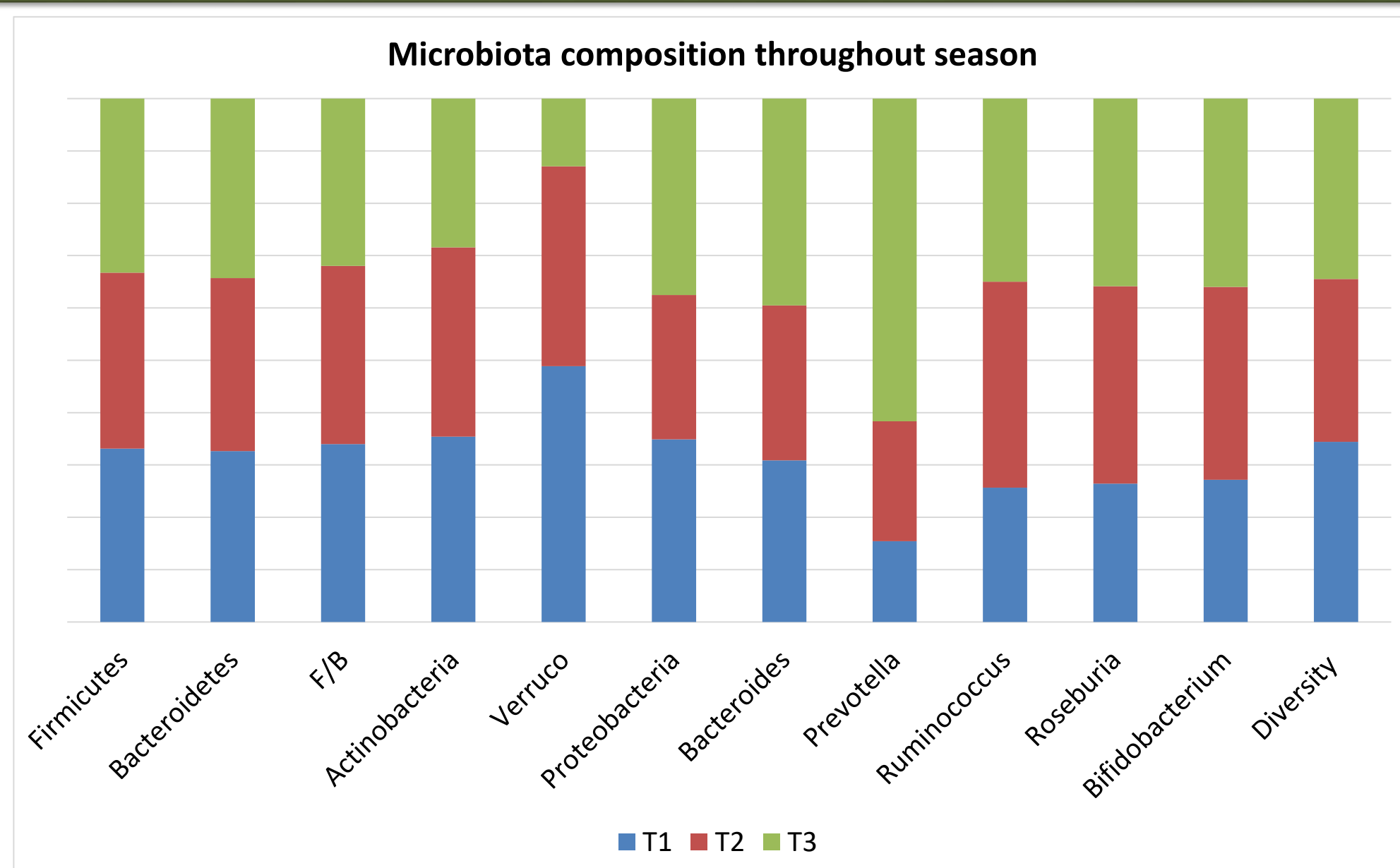
### INTRODUCTION & AIM

The gut microbiota consists of microorganisms inhabiting various body sites, playing essential roles in pathogen defense, digestion, vitamin synthesis, and immune regulation. In the gut, dominant phyla include Firmicutes, Bacteroidetes, Actinobacteria, Proteobacteria, and Verrucomicrobia. Exercise, especially endurance training, can modulate microbiota composition, increasing metabolites such as short-chain fatty acids (SCFAs), which benefit metabolism and disinflammation. This study aimed to assess gut microbiota composition in elite female futsal players across a competitive season.

### METHOD



### RESULTS & DISCUSSION



### CONCLUSION

Elite female futsal players exhibited a stable, less inflammation-prone microbial environment in their gut microbiota profiles. This composition may optimize energy metabolism and immune modulation. Changes across the season could be promoted by changes in feeding or training intensity. Microbiota profiling could serve as a potential biomarker for intestinal health and athletic performance.

### FUTURE WORK

Further research should explore how individualized gut microbiota profiles influence adaptation to training, recovery, and performance outcomes. Longitudinal interventions examining diet–microbiota interactions, body composition, short-chain fatty acid production, and microbial signatures associated with elite athletic performance are needed. Integrating multi-omics approaches with controlled nutritional strategies may help identify microbiota-based markers to optimize athlete health and performance.

### REFERENCES

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