

**Exploring sports nutritionists' and players' perspectives of nutrition practice within
English professional football during the COVID-19 pandemic**

Abstract

The outbreak of the COVID-19 pandemic, and the subsequent suspension of all football-related activity, caused significant disruption to the daily habits of professional football players and support staff. Even when the most severe restrictions were lifted, strict control measures remained in place which likely continued to impact upon nutrition support and intake of players. Thus, this study aimed to understand how restrictions impacted upon nutrition support within professional football, as well as identify how these experiences could inform future practice. Interviews were conducted with twelve sports nutritionists and twelve male professional football players to explore their perspectives of nutrition provision during the COVID-19 pandemic. Thematic analysis indicated three common outcomes: (a) Sub-optimal Nutrition Provision; (b) Reduction in Time with or Access to Players, and; (c) Adaption of Nutrition Practice and/or Dietary Habits. In sum, football clubs should consider the immediate and short-term impact of COVID-19 restrictive measures as players' transition back to normality. Specifically, clubs should provide sports nutritionists with greater capacity to control the nutrition provision, including portion size and food quality. Looking ahead, sports nutritionists are encouraged to reflect upon the novel opportunities that have emerged and consider how these may enhance long-term practice.

Keywords: nutrition support; COVID-19 pandemic; lockdown; sports nutritionists; football

Introduction

It is well-established that nutrition can play an essential role in optimising the performance and health of professional football players (Collins et al., 2020). The role of a sports nutritionist is critical to ensure that players are adequately supported to meet their individual requirements (Maughan, 2006; Thomas et al., 2016). However, the COVID-19 pandemic caused a halt to competitive fixtures throughout English football from March-June 2020 that, alongside the implementation of social-distancing and adherence to strict hygiene protocols, likely placed restrictions on the working practices of support personnel (Kelly, Erickson, & Turnnidge, 2020). Thus it is plausible to suggest that these restrictions drastically altered the daily nutrition practice of both professional football players and sports nutritionists. Therefore, as professional football begins to navigate its way back to normality, it is important to capture the many lessons learned during this unusual and unprecedented time.

The enforcement of lockdowns can lead to detrimental lifestyle changes for sports players and practitioners (Santi et al., 2021), such as adverse physiological effects, poor and inappropriate nutrition, lack of quality sleep, alterations in mood, and loneliness and depression (Jukic et al., 2020; Mon-Lopez et al., 2020). Whilst a recent position statement of the Royal Spanish Football Association (Herrero-Gonzalez et al., 2020) proposed a series of recommendations to allow players to transition back into regular match-play (e.g. completion of at least 4 weeks of training; regular COVID-19 testing for all club personnel; a full medical examination on return etc.), they did not consider any detrimental impacts of nutritional intake within their recommendations. This is concerning as preliminary research has indicated perceived changes in dietary habits within a range of different general populations during the COVID-19 pandemic (e.g., Huber et al., 2020; Scarmozzino & Visioli 2020; Sidor & Rzymiski 2020) and even within groups of professional athletes. Roberts et al. (2020) observed an increase in total food consumption by rugby union players in New

Zealand during a lockdown period of COVID-19, which the authors suggested may lead to undesirable changes in body composition if associated with a decrease in energy expenditure due to the suspension of training and match-days. However, to the researcher's knowledge, no research has been undertaken within professional football. Thus, the purpose of this research was three-fold: (a) to understand sports nutritionists' perspectives regarding how COVID-19 restrictions had impacted upon their nutrition practice within professional football; (b) to evaluate professional football players' experiences of nutrition support and food provision during COVID-19 restrictions, and; (c) to consider whether the outcomes of *a* and *b* could help inform future nutrition practice once COVID-19 restrictions are eased or in the event of future global health pandemics.

Materials & Methods

Participants

Following institutional ethical approval, twelve sports nutritionists (9 male, 3 female; age 31 ± 7.2 years; employment in professional sport 6.6 ± 4.4 years) volunteered to participate in this study. All sports nutritionists were currently responsible for delivering nutrition support within English professional football clubs at a first team and/or academy level, with nine participants being registrants of the Sport and Exercise Nutrition Register (SENr). In addition, twelve male professional football players (age 18 ± 1 years) were recruited from the Professional Development Phase of a Category One English Premier League club. Players had been developing within an academy setting for an average of 8 ± 3 years and had been exposed to nutritional support with the current club for an average of 6 ± 4 years.

Procedures

Individual interviews were conducted remotely between September-December 2020 via video-conferencing software (Microsoft Teams, Microsoft, Redmond, USA), with only the investigator and participant present throughout. Interviews followed a semi-structured design,

whereby participants had the opportunity to discuss and reflect upon their experiences within a flexible, yet organised, structure. During the interview, participants were encouraged to respond to the questions in their own context and consider their perspectives of nutrition practice (sports nutritionists) or support (football players) during the COVID-19 pandemic.

Data Analysis

Interviews were recorded and transcribed onto NVivo 12 (QSR International, Melbourne, Australia). Themes were identified and coded by the lead researcher using a six-stage model for thematic analysis (Braun & Clarke, 2006). All themes were independently reviewed before being agreed by the research team. Anonymised example quotations have been provided throughout the results.

Results

Sports nutritionists (Table 1) and football players (Table 2) identified three higher-order themes, which comprised of a range of lower-order themes, to describe how the COVID-19 pandemic had impacted upon nutrition practice within professional football.

INSERT TABLE 1 NEAR HERE

INSERT TABLE 2 NEAR HERE

Theme 1 – Sub-optimal Nutrition Provision

A key theme identified by both sports nutritionists and football players was how adjustments to food provision within their respective football club environment had led to a perceived detrimental impact upon nutritional intake. Many football clubs had closed their “buffet-style” canteens and instead were providing the players with pre-packaged, pre-portioned “take-away” options for post-training meals, often with limited options. A number of sports nutritionists commented how they felt that this was limiting both the quantity and quality of nutritional intake for their players, as well as impairing their ability to provide individualised nutrition support strategies. This theme was supported by comments from several players,

who felt that the portion size and the quality of food provision had decreased since the onset of the COVID-19 pandemic.

Theme 2 – Reduction in Effectiveness of Support and Time/Access to Players

A second common theme from the sports nutritionists was how COVID-19 restrictions had limited their perceived opportunities to provide effective nutrition support strategies to their players. More specifically, “working from home” had restricted their time within the training environment and placed limitations on the types of support they could provide. Additionally, some sports nutritionists had experienced a reduction in their contracted hours and salary as football clubs aimed to reduce staffing costs. Aligned to this theme, some players outlined how the loss of face-to-face contact with a nutritionist in the club environment had a negative impact on their nutrition provision, whilst others commented on how the reduced frequency of nutrition support may have had a detrimental influence on their dietary behaviours.

Theme 3 – Adaptation of Nutrition Practice and Dietary Habits

This third theme showed how both sports nutritionists and players perceived some beneficial consequences of the COVID-19 pandemic on nutrition practice and/or dietary habits. For example, some sports nutritionists felt that the restrictions on their usual practice had created opportunities for them to adapt existing delivery methods and consider novel strategies to continue effective nutrition support whilst working remotely. This was also supported by comments from the players, who felt that online support sessions were an effective mode of nutrition support during COVID-19 lockdown periods. Additionally, players also commented how they perceived their dietary habits had improved due to the closure of shops and restaurants, since they had reduced opportunity to make unhealthy food choices or be guided towards easily accessible fast-food.

Discussion

The aim of this study was to better understand sports nutritionists' and football players' perspectives of nutrition support during the COVID-19 pandemic, and how these findings may help inform future practice as we navigate our way back to normality.

Findings revealed that sports nutritionists and football players reported “sub-optimal food provision”, whereby they suggested that the quality of food provided within their respective club settings had been negatively impacted during the COVID-19 pandemic. Given the widespread evidence outlining the importance of optimal nutritional intake to meet footballers fuelling and recovery requirements (Collins et al., 2020), as well as the need for these nutrition strategies to be individualised in order to induce optimal performance benefit (Maughan, 2006), the outcomes of this research are particularly concerning. Although the long-term impact of COVID-19 restrictions on markers of performance are yet to be reported, it is possible to suggest that inadequate food provision during the COVID-19 pandemic may have had a detrimental impact in some football players, particularly given the prolonged timeframe in which restrictive measures have persisted. As restrictions are eased, sports nutritionists should consider assessing nutrition-related markers of health and performance at the earliest opportunity and implement strategies to address any areas of concern. In regards to future practice, clubs are encouraged to consider contingency planning for their catering and food provision to help ensure that nutrition practice is not compromised should future restrictions be imposed.

Sports nutritionists also perceived that the COVID-19 restrictive measures created a “reduction in effectiveness of support and time/access to players” compared to their usual nutrition support strategies. Given the applied nature of performance nutrition, with many testing methods requiring the collection of physiological data (e.g., body composition analysis, hydration testing, blood sampling), it is impractical to undertake these measures without direct physical contact with players. Whilst appropriate personal protective

equipment can help minimise any risks of COVID-19 transmission (Cook, 2020), many sports nutritionists reported that the most preventative solution was to simply avoid undertaking these activities altogether. This also creates limited opportunities for sports nutritionists' to build the fundamental professional relationships with their players, which are crucial to effective nutrition support (Bentley et al., 2019). In addition to the cessation of core activities, a number of the sports nutritionists reported a reduction in working hours and limited access to certain players or age groups, which again they perceived as a detrimental impact upon the effectiveness of their roles. Similar comments were reinforced from the players, which serves to demonstrate the likelihood that the sports nutritionists' concerns are well-founded.

An interesting aspect of this research revealed sports nutritionists and players suggested an “adaptation of nutrition practice and dietary habits” during the COVID-19 pandemic. Rather than solely focussing upon the challenges posed by COVID-19 restrictions, the sports nutritionists were able to reflect upon the novel opportunities that had been presented, stating how they would take these into their future practice. Positive adaptations to practice included the introduction of online delivery of group workshops and individual player consultations, both of which were considered a more time-effective and convenient mode of support than traditional face-to-face delivery. With reference to the effectiveness of support, it was noted that players more positively engaged with “virtual cooking sessions”, whilst sports nutritionists commented how these were delivered more effectively due to the wider availability of cooking facilities in one's own home. Additionally, for those sports nutritionists who are only employed for a limited time with a club (e.g., one day per week), it was felt that “remote” working offered greater flexibility to provide individual player consultations and saved valuable time that would otherwise be spent travelling to club venues. In the immediate timescale, due to the ongoing uncertainties of COVID-19, there will

likely be a continued reliance on structured online support activities to ensure that provision continues. Thus, sports nutritionists are encouraged to develop a range of remote support strategies to effectively engage players with nutrition, as well as consider how the most effective approaches can be adopted moving forward.

Finally, a number of players commented that the temporary closure of restaurants, cafés, and non-essential retail shops had limited the opportunity to engage in poor dietary behaviours. Whilst our study did not directly measure dietary intake, this finding is similar to that reported in rugby union players, who reported a higher consumption of fruits and vegetables and a lower consumption of packaged and convenience foods during COVID-19 lockdown periods (Roberts et al., 2020). These outcomes represent a novel opportunity for sports nutritionists to implement more sustained and impactful dietary behaviour changes, particularly in those players who often struggle with adherence due to the wealth of alternative food sources which are ordinarily available.

Practical Considerations and Conclusion

This is the first study to explore sports nutritionists' and players' perspectives of nutrition support within professional football during the COVID-19 pandemic. These preliminary findings demonstrate that restrictions imposed by global health pandemics are likely to pose several challenges to the maintenance of effective nutrition provision in professional football. Based on these results, we provide some key practical considerations for sports nutritionists and football clubs to reflect upon when transitioning football players back into full-time training and competitive match-play (Figure 1). **In particular, as the current and subsequent seasons are likely to be condensed into a shorter timeframe than normal, increased fixture congestion is likely to place a heavier reliance on dietary intake and nutrition support within professional football. Thus, implementation of these recommendations will be key in ensuring that players are adequately fuelled during the remainder of the pandemic.** Moreover,

given the importance of nutrition on performance, it is essential to ensure that protocols are in place to maximise nutritional support and positive dietary behaviours in footballers.

INSERT FIGURE 1 NEAR HERE

Acknowledgements

The authors would like to thank the sports nutritionists and football players for giving up their valuable time to participate in this research.

Disclosure of Interest

The authors declare no conflicts of interest.

References

- Bentley, M. R., Mitchell, N., Sutton, L., & Backhouse, S. H. (2019). Sports nutritionists' perspectives on enablers and barriers to nutritional adherence in high performance sport: A qualitative analysis informed by the COM-B model and theoretical domains framework. *Journal of Sports Sciences*, 37(18), 2075–2085.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Collins, J., Maughan, R. J., Gleeson, M., Bilsborough, J., Jeukendrup, A., Morton, J. P., ... & McCall, A. (2020). UEFA expert group statement on nutrition in elite football. Current evidence to inform practical recommendations and guide future research. *British Journal of Sports Medicine*.
- Cook, T. M. (2020). Personal protective equipment during the coronavirus disease (COVID) 2019 pandemic—a narrative review. *Anaesthesia*, 75(7), 920–927.
- Gonaus, C., & Muller, E. (2012). Using physiological data to predict future career progression in 14- to 17-year-old Austrian soccer academy players. *Journal of Sports Sciences*, 30(15), 1673–1682.
- Herrero-Gonzalez, H., Martín-Acero, R., Del Coso, J., Lalín-Novoa, C., Pol, R., Martín-Escudero, P., & Ramos, R. (2020). Position statement of the Royal Spanish Football Federation for the resumption of football activities after the COVID-19 pandemic (June 2020). *British Journal of Sports Medicine*, 54, 1133-1134.
- Huber, B. C., Steffen, J., Schlichtiger, J., & Brunner, S. (2020). Altered nutrition behavior during COVID-19 pandemic lockdown in young adults. *European Journal of Nutrition*, 1–10.
- Jukic, I., Calleja-González, J., Cos, F., Cuzzolin, F., Olmo, J., Terrados, N., Njaradi, N., Sassi, R., Requena, B., Milanovic, L., Krakan, I., Chatzichristos, K., & Alcaraz, P. E.

(2020). Strategies and solutions for team sports athletes in isolation due to COVID-19. *Sports*, 8(56), 1–9.

Kelly, A. L., Erickson, K., & Turnnidge, J. (2020). Youth sport in the time of COVID-19: Considerations for researchers and practitioners. *Managing Sport and Leisure* [ePub ahead of print].

Maughan, R. (Ed.). (2006). *Nutrition and football: the FIFA/FMARC consensus on sports nutrition*. London: Routledge.

Mon-López, D., de la Rubia Rianza, A., Hontoria Galán, M., & Refoyo Roman, I. (2020). The impact of Covid-19 and the effect of psychological factors on training conditions of Handball Players. *International Journal of Environmental Research and Public Health*, 17(18), 6471.

Premier League (2020). Statement on provisional season restart date. Retrieved from: <https://www.premierleague.com/news/1674011>

Roberts, C., Gill, N., & Sims, S. (2020). The influence of COVID-19 lockdown restrictions on perceived nutrition habits in rugby union players. *Frontiers in Nutrition*, 7, 216.

Santi, G., Quartiroli, A., Costa, S., di Fronso, S., Montesano, C., Di Gruttola, F., Ciofi E. G., Morgilli, L., & Bertollo, M. (2021). The impact of the COVID-19 lockdown on coaches' perception of stress and emotion regulation strategies. *Frontiers in Psychology*, 11(3872), 1–8.

Scarmozzino, F., & Visioli, F. (2020). Covid-19 and the subsequent lockdown modified dietary habits of almost half the population in an Italian sample. *Foods*, 9(5), 675.

Sidor, A., & Rzymiski, P. (2020). Dietary choices and habits during COVID-19 lockdown: experience from Poland. *Nutrients*, 12(6), 1657.

The Football Association (2020). Latest guidance on permitted football activity from 1st June 2020. Retrieved from: <https://www.thefa.com/news/2020/jun/01/grassroots-football-covid-19-guidance-update-010620>

Thomas, D. T., Erdman, K. A., & Burke, L. M. (2016). American College of Sports Medicine joint position statement. Nutrition and Athletic Performance. *Medicine & Science in Sports & Exercise*, 48(3), 543–568.