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RESEARCH

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The role of the chef in professional football: a survey of current practice in the English Premier and Football Leagues

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Abstract

Background Despite the increasing presence of chefs in professional football and their influence on nutrition provision, evidence on the specific roles and responsibilities of chefs remains limited. This study aimed to explore the role(s) of chefs and describe the characteristics of catering services within English professional football.

Methods Sixty-two chefs (56 males, 6 females) in club supervisory positions within the top four divisions of the English male football pyramid were surveyed during the 2022–2023 season.

Results Participants were predominantly male, aged 35–44 years, and employed on full-time permanent contracts. Sixteen participants had the term 'performance' in their contracted job title. Participants averaged 24 years of chef work experience, 8 years of football-specific experience, and 45 working hours per week. Twenty-nine participants had responsibility for providing nutrition advice to players, whereas the vast majority used nutritional supplements and produced bespoke nutritional items as part of the catering services provided. Most participants rated their sport nutrition knowledge from 'good' to 'excellent' although only 18 had undertaken formal sport nutrition training. Fifty-one participants frequently followed a periodised nutrition approach, however 31 lacked defined nutrition targets. Tasks such as travelling to fixtures, hotel menu planning, and hotel food provision were most frequent in the Premier League. Catering services in the Premier League mostly operated year-round, seven days a week, employing 4 or more chefs, and spending £6,000 or more per week, with declining operations, costs, and staffing towards the lower divisions. Forty-nine services covered male academy teams alongside the male senior team. Only 15 covered female senior teams, of which 7 extended coverage to female academy teams.

Conclusions Chefs undertake key roles both at and away from the club training ground to implement sport nutrition strategies. Inconsistencies in strategy implementation and catering practices were identified, along with league disparities and gender inequalities in service provision. Our findings underscore the need for a quality-assurance framework for accreditation and increased opportunities for chef-tailored sport nutrition education. We advocate for the title 'sport chef', and the establishment of a regulatory body to support the practice of chefs working in professional football.

Keywords Performance chef, Catering service, Sport nutrition, Soccer, Audit

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Introduction

Chefs working in professional football are challenged with the implementation of sport nutrition strategies, which are recommended to be periodised and personalised to meet the nutritional requirements of players [1]. This involves translating theoretical nutrition targets into practically deliverable meals that accommodate players' personal preferences, including considerations such as food allergies, intolerances, and special dietary needs [2]. Successful implementation requires an understanding of the principles underpinning nutrition science, alongside proficiency in culinary arts (e.g., recipe development) and management (e.g., knowledge of food service operations) [3]. Additionally, the expanding internationalisation of football demands culturally inclusive and diverse catering practices. For example, from 1992 to 2025, the number of nationalities represented in the Premier League rose from 11 to 70 [4]. Similarly, non-domestic players now comprise approximately 50% of squads across the top five European leagues [5]. Therefore, chef expertise is fundamental for providing optimal nutrition support across diverse football environments, including the club training ground, hotels, stadiums, and during both domestic and international travel.

In recent years, chefs have become increasingly prominent within football and the broader professional sport setting. This trend is evidenced by a growing number of professional clubs employing large chef teams and incorporating state-of-the-art kitchens into their training ground facilities to provide in-house catering services [6]. Emerging evidence outlines the pivotal role of chefs within athletes' nutrition support networks, serving as the final link in the food delivery chain of the nutrition strategy [7]. Furthermore, previous research has highlighted that chefs can influence the dietary behaviours of high-performance athletes and academy football players [8, 9]. Thus, chefs have emerged as integral members within the staffing structures of football clubs, working alongside sport nutritionists, performance and medical staff.

Within the professional football club environment, collaboration between the chef and nutritionist is crucial for providing meals that promote food enjoyment and meet the nutritional demands of training and match schedules [10]. However, challenges may arise when chefs are perceived to contradict nutritional recommendations, leading to instances of role conflict [8]. Such conflicts may stem from an unclear definition of the chef role and its scope, resulting in overlapping responsibilities, ambiguous line management and evaluation systems, and limited integration between chefs and the club performance department. In this regard, recent evidence underscores the importance of establishing mutual understanding of the roles and responsibilities between chefs and sport nutritionists, fostering trust and maintaining efficient communication [11]. Hence, collaborations built on mutual respect and role recognition between the club nutritionist and catering team are paramount for developing efficient nutritional interventions.

Despite the increasing presence of chefs in professional football, empirical evidence on their specific responsibilities remains limited. Addressing the gap in understanding the role(s) of the chef is necessary, as their collaboration with other key club stakeholders, such as sport nutritionists, can impact both the feasibility of nutrition strategies and the quality of nutrition provision. This scenario is further emphasised by the increasing recognition of '*performance chefs*' within the athlete-focused catering sector, media, and emerging academic literature, despite the absence of standardised role competencies and regulatory oversight. Moreover, while nutrition practitioners should consider budgetary and logistical constraints within club catering operations when implementing the nutrition strategy, these aspects have not yet been thoroughly examined. Therefore, the purpose of this study was to explore the role(s) of chefs working within the top four divisions of the English male professional football pyramid, and to describe the characteristics of the catering services provided.

Material and methods

Participants and recruitment

Using a cross-sectional research design, chefs working within the top four divisions of the English male professional football pyramid, including the Premier League and the English Football League (EFL) – Championship, League One, and League Two – were purposefully recruited to complete an open survey. The inclusion criteria were: (a) holding a position with responsibility for overseeing the club catering service (e.g., executive chef, head chef, or an equivalent position) during the 2022–2023 season, and (b) having direct involvement within the club training ground environment. Chefs exclusively employed for the club hospitality catering or stadium-based roles were not considered for participation. Participation was voluntary, and no incentives were provided.

Participants contact details were obtained through club gatekeepers, primarily the first team nutritionist or head of performance. If initial contact was unsuccessful, secondary gatekeepers, such as sports science and medical staff, were approached. Gatekeepers, known to the researchers through professional networks, were contacted via email, WhatsApp, or LinkedIn. If unresponsive, publicly available information (e.g., club website) was consulted. Once participant contact details were obtained, invitations to participate were sent via email,

LinkedIn, X (formerly Twitter), or Instagram. To maintain data integrity, only one participant from each club was invited to participate.

Survey participation is outlined in Fig. 1. Among the 92 clubs encompassing the English Premier and Football Leagues, effective communication was established with 85. An eligible participant was identified in 70 clubs, while 15 clubs lacked one. In these cases, gatekeepers were asked to describe their club food provision across training and match days. Among the 70 clubs with an eligible participant, seven agreed to participate but did not complete the survey, and one declined participation. Therefore, 77 clubs participated, with 62 completing the survey in full. Ethical approval for this study was obtained from Leeds Beckett University Research Ethics Committee (approval ref: 112,377).

Survey design and distribution

The survey was developed using online survey software, Qualtrics (Qualtrics, Provo, UT, USA). All research team members had applied experience in professional football or other sporting environments. Authors NC and AA provide nutrition support to senior male teams and regularly collaborate with the executive/head chef of one Premier League and one League One club, respectively. PB has over 11 years of practitioner experience in professional football, including 6 years of line managing chefs. MB and SB contribute with over 7 and 20 years, respectively, of combined practitioner and/or research experience within sport institutions.

The survey was piloted by a panel of four chefs, each with over ten years of experience working in professional football and rugby. Of these, one participated in the final survey. Based on the feedback received, five questions were refined for improved clarity and one question was added, namely, *'How is your performance evaluated?'*. The final survey comprised a maximum of 61 questions, depending on participant answers and the logic process applied. The survey was organised into four sections: (a) participant characteristics, (b) catering services, (c) nutrition strategies, and (d) chef responsibilities. It included multiple choice ($n=46$), open-ended ($n=8$), and Likert scale ($n=7$) questions. Participants were afforded the option to provide written responses in cases where further detail was required. The ordering of questions followed a logical order. The survey took on average 23 ± 11 min to complete, and all participants were able to review their answers prior to submission.

The survey was administered online from April to July 2023. A distribution list with unique survey links for each club was generated, and each participant was invited with the respective survey link. This approach allowed for tracking completion rates per league and club, facilitating effective follow-up communications, and preventing duplicate responses from the same club. An information sheet and consent form were displayed on the first two pages of the survey, where participants provided informed consent before proceeding. The survey was conducted anonymously, and no personal identifying information was collected.

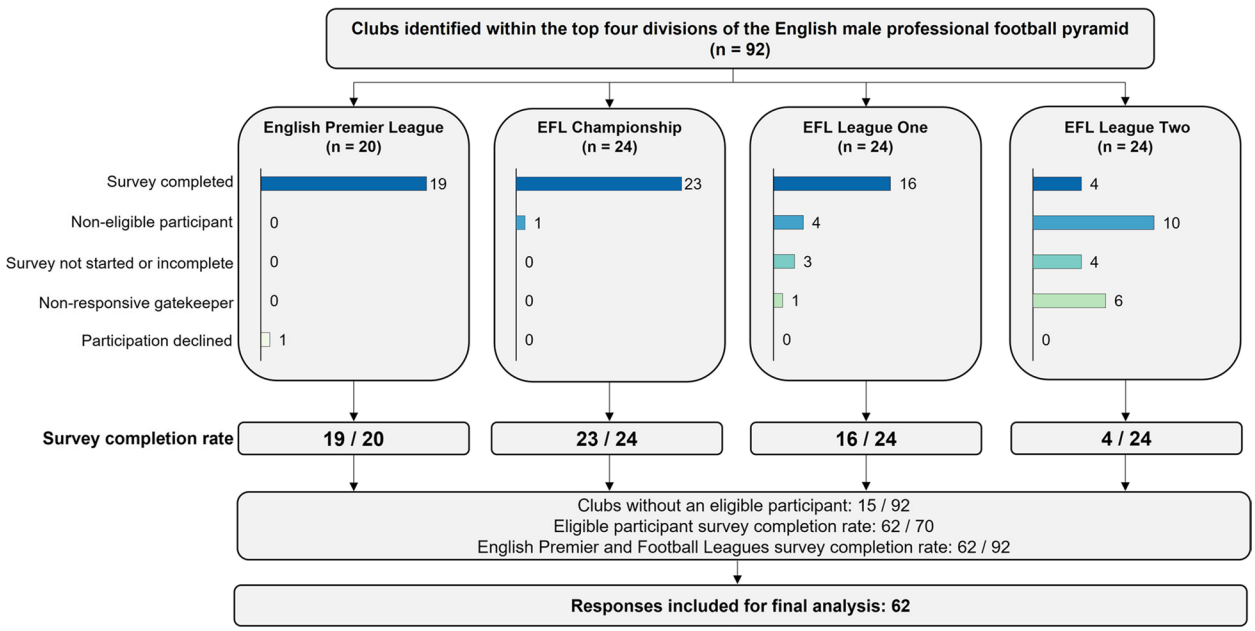

Fig. 1 An overview of survey participation and completion rates categorised by league and presented in total

Data analysis

The descriptive analysis was conducted using SPSS version 28. Frequency distributions were used to present data derived from multiple-choice (e.g., sex, age group and employment status) and Likert scale questions, as these consisted of either nominal or ordinal data. Numerical data (e.g., years of work experience and number of weekly working hours) were reported using mean, minimum, and maximum values. Where applicable, data were segregated by each football division and presented using color-coded heatmaps to facilitate comparative analysis and highlight distinctive patterns across and within leagues.

Responses from open-ended questions (e.g., self-described role objective) were analysed using inductive content analysis. This process involved the lead researcher [AA] reading through the responses, developing initial codes, and recording them on a coding sheet. A 'critical friends' approach was then employed, involving critical dialogue among the research team on the initial codes to share interpretations, provide feedback, and reach consensus [12]. Reflexivity was an integral part of this process, as the research team challenged their own assumptions to ensure a more transparent interpretation of the data, thereby enhancing the rigour of the analysis. The final codes were then grouped into broader categories based on common themes and condensed to develop a general description of the most prevalent patterns within the data [13]. All data were then presented using frequency distributions. Direct quotations from participants were also included to illustrate the nuance of responses. This study adhered to the Checklist for Reporting Results of Internet E-Surveys (CHERRIES) [14].

Results

Overview of participant characteristics

Participant characteristics and employment profiles are displayed in Table 1. Participants were predominantly male, aged 35–44 years, and all identified with their sex assigned at birth. Most participants held full-time permanent contracts with their respective clubs, while one-quarter were employed by external catering companies. A minority reported being self-employed or employed by other organisations (e.g., an agency). On average, participants had 24 years of work experience as chefs, including 8 years of chef experience in football. The majority had been working at their respective clubs for 3 years or less at the time of participation. Receiving additional compensation was uncommon across all leagues, however, when provided, it was typically linked to team rather than individual performance. Participants from the Premier League exhibited greater average work experience as chefs in football, weekly working hours, and compensation, with these values sequentially decreasing in the lower leagues.

Career pathway and qualifications

Participants routes to a chef role in football involved formal education, typically at a catering college ($n=22$), through an apprenticeship ($n=8$), or a combination of both attending a catering college and on-the-job learning ($n=19$). Ten participants had no formal training and learnt on the job, while three participants transitioned from other sectors (e.g., a chef role within the Royal Navy).

Twenty-six participants held a National Vocational Qualification (NVQ), mostly at Level 2 and/or Level 3. These included '*Professional Cookery*', '*Food Preparation & Cooking*', '*Food and Drink Service*', '*Kitchen and Larder*', '*Professional Baking and Decorating*', among others. Diplomas were the second most frequently reported qualification type ($n=10$; e.g., '*Diploma in Culinary Arts*') followed by '*City & Guilds*' qualifications ($n=8$). Eleven participants held other varied qualifications, including vocational qualifications ($n=3$; e.g., '*BTEC Hospitality and Catering principles*'), degree-level qualifications – all of which were unrelated to a cookery role – ($n=3$; e.g., '*BA Hons Hospitality Business Finance Management*') and unspecified qualifications ($n=5$). Thirteen participants did not possess any relevant qualifications, while six had more than one type of qualification. All participants held a food hygiene certificate, with 47 indicating that their highest certification was Level 3. The remaining participants reported Level 4 ($n=4$), Level 2 ($n=10$), and Level 1 ($n=1$) as their highest level.

Job titles

Thirty-one participants held 'head' chef titles such as '*head chef*' ($n=19$), '*training ground head chef*' ($n=4$), '*performance head chef*' ($n=4$), '*head chef catering manager*' ($n=2$), '*first team head chef*' ($n=1$), and '*club head chef*' ($n=1$). Seventeen participants held other chef-related titles like '*performance chef*' ($n=6$), '*first team chef*' ($n=4$), '*first team performance chef*' ($n=1$), '*first team sports performance chef*' ($n=1$), '*players performance chef*' ($n=1$), '*personal and project chef*' ($n=1$), '*sous chef*' ($n=1$) and '*chef*' ($n=2$). Ten participants held 'executive' chef titles like '*executive chef*' ($n=4$), '*executive head chef*' ($n=4$), '*executive performance chef*' ($n=1$), and '*executive performance head chef*' ($n=1$). Four participants were contracted under other titles including '*head of catering operations*', '*catering manager*', '*kitchen manager*', and '*caterer*'. Of the 62 participants, 16 had the word '*performance*' included in their contracted job titles, none from the League Two.

Table 1 Participant characteristics and employment profiles

	Total (n = 62)	PL (n = 19)	CH (n = 23)	L1 (n = 16)	L2 (n = 4)
Sex					
Male	56	18	22	12	4
Female	6	1	1	4	0
Age					
25-34	5	1	1	2	1
35-44	35	14	13	8	0
45-54	15	2	8	4	1
55-64	7	2	1	2	2
Employment status					
Employed by the club	39	12	13	12	2
Employed by an external catering company	16	6	8	2	0
Self-employed	4	0	2	1	1
Other (e.g., employed by an agency)	3	1	0	1	1
Nature of contract					
Full-time permanent	58	18	22	14	4
Full-time fixed term	3	1	1	1	0
Part-time permanent	1	0	0	1	0
Work experience					
Years as chef*	24 (6-46)	23 (13-46)	25 (10-38)	23 (6-45)	26 (15-40)
Years as chef in football*	8 (<1-20)	9 (<1-20)	8 (<1-17)	6 (<1-14)	5 (1-12)
Time working in the club					
10 years or more	10	5	4	1	0
7 to 9 years	11	3	5	3	0
4 to 6 years	12	3	3	4	2
1 to 3 years	22	6	8	6	2
Less than one year	7	2	3	2	0
Working hours					
Hours per week*	45 (28-90)	51 (37-90)	45 (28-62)	42 (28-50)	39 (35-48)
Personal yearly income					
£100,000 or more	1	1	0	0	0
£75,000 to £99,999	2	2	0	0	0
£50,000 to £74,999	8	5	2	0	1
£25,000 to £49,999	42	10	18	12	2
£24,999 or less	4	0	2	1	1
Prefer not to answer	5	1	1	3	0
Additional compensation					
Team performance-based bonus	17	6	5	6	0
Personal performance-based bonus	4	1	2	0	1
Team and personal performance-based bonus	2	1	1	0	0
Do not receive additional compensation	39	11	15	10	3

Data are presented as a heatmap; darker shades denote higher frequencies or values across and within divisions, relative to the number of participants per division and total

PL Premier League, *CH* Championship, *L1* League One, *L2* League Two

*Data are expressed as means, with minimum and maximum values in parenthesis

Key role objectives

Participants' self-described key objectives of their role are summarised in Fig. 2. Participants perceived their key role to be providing high-quality food that is nutritionally balanced, flavoursome, fresh, and healthy. Participants stressed the importance of food provision for aiding players' fuelling, performance, and recovery, alongside meeting individual nutritional needs. Their responsibility for ensuring food enjoyment and well-presented meals was also emphasised. To exemplify this, a participant from the League One shared:

"To provide appropriate food groups for football

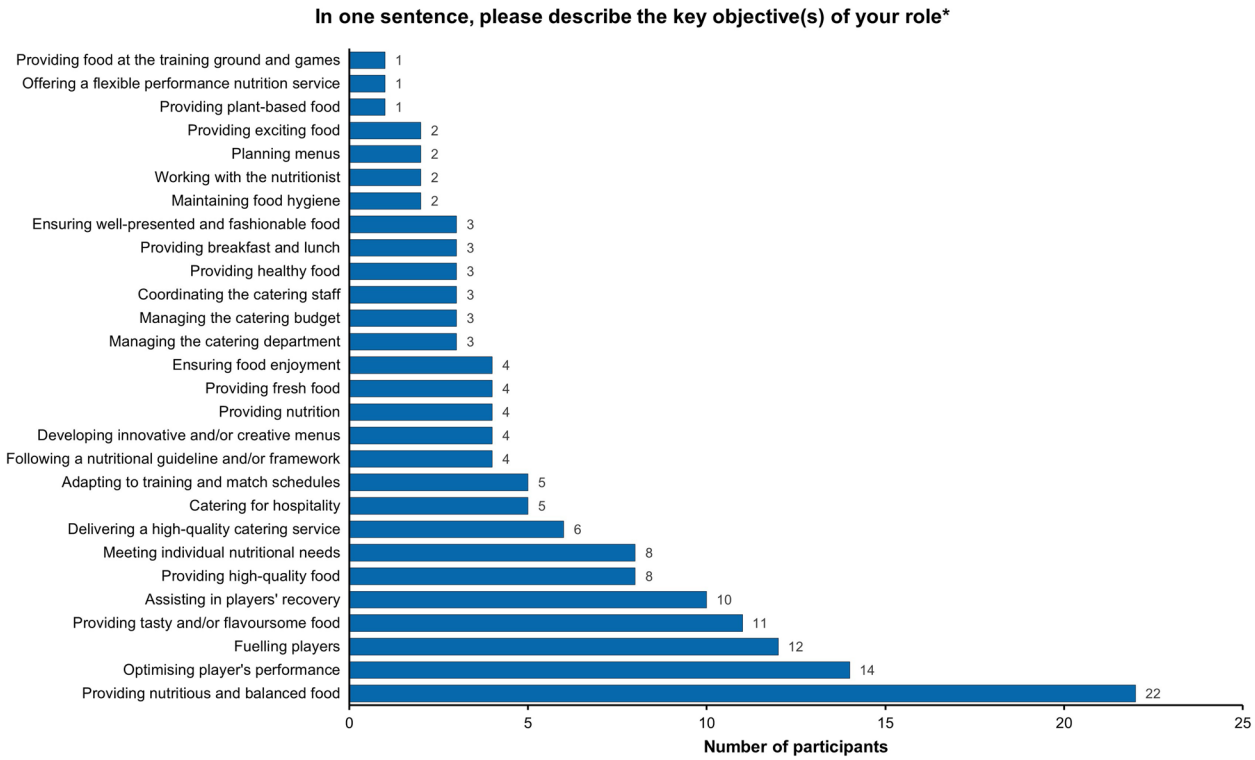

Fig. 2 Participants' self-described key objectives of their role. *Participants may have included one or more objectives within their responses, resulting in an aggregated count exceeding the total number of participants

players to accommodate their nutritional needs, giving them the fuel and healthiness they require to perform adequately, but also ensuring the food is full of flavour and kept interesting".

Managerial aspects were also outlined, with responsibilities including managing the catering budget, maintaining food hygiene, coordinating staff, and delivering a high-quality service that adapts to training and match schedules. The development of innovative menus in accordance with nutritional guidelines was also highlighted, although collaboration with nutritionists was only mentioned by a minority. As an example, one participant from the Championship stated:

"To create highly nutritious food, fresh produce, exciting, flavourful ingredients, working to strict guideline set by nutritionist and training schedule, fuel to perform".

Responses were not noticeably different in the level of detail provided, response length or wording across leagues.

Catering service characteristics

Catering service characteristics are presented in Table 2. Most services operated year-round, seven days a week, providing two daily food services (e.g., breakfast and lunch). Premier League clubs exhibited greater seasonal and weekly operations, with a gradual decrease observed towards the lower divisions. Premier League clubs had a higher number of catering staff, with 17 clubs employing four or more chefs, including 8 clubs that employed six or more. The most common serving style for the main meal was self-service from a buffet, followed by plated service from a buffet. Four participants reported serving from pre-determined fixed choices, offering between one to more than three meal options. Other styles included serving from live cooking stations to players' order ($n=5$), and a combination of two styles ($n=3$).

Most catering services covered male academy teams alongside the male senior team. There was limited coverage for female teams, with only 15 clubs covering female senior teams, seven of which also covered female academy teams. Catering for female teams was more common in the Premier League, with decreasing coverage in the lower leagues, and an absence of provision in the League Two. When looking at academy age groups, the Youth Development Phase (U12s-U16s) and Foundation

Table 2 Catering service characteristics

	Total (n = 62)	PL (n = 19)	CH (n = 23)	L1 (n = 16)	L2 (n = 4)
Catering service season operation					
In-season and off-season	36	15	12	8	1
In-season only	26	4	11	8	3
Catering service week operation					
7 days	21	12	8	1	0
6 days	16	6	6	4	0
5 days	16	1	7	6	2
4 days	8	0	2	4	2
3 days	1	0	0	1	0
Daily food services (eating opportunities)					
4 services	3	0	2	1	0
3 services	19	8	6	5	0
2 services	37	11	14	9	3
1 service	3	0	1	1	1
Catering staff – chefs					
6 or more	9	8	1	0	0
4 to 5	20	9	7	4	0
2 to 3	21	2	13	6	0
Only 1	12	0	2	6	4
Catering staff – kitchen assistants and porters					
5 or more	5	3	1	1	0
3 to 4	6	4	1	1	0
1 to 2	43	12	18	12	1
0	8	0	3	2	3
Catering staff – fronts of house					
5 or more	5	2	1	2	0
3 to 4	12	7	3	2	0
1 to 2	22	6	10	6	0
0	23	4	9	6	4
Number of people served per day					
200 or more	10	5	2	1	2
150 to 199	8	2	5	1	0
100 to 149	19	8	6	5	0
50 to 99	21	4	9	7	1
50 or less	4	0	1	2	1
Main serving style					
Self-served from buffet	33	11	7	12	3
Served from buffet	15	4	8	2	1
Served from pre-fixed choices	4	0	3	1	0
Served from á la carte	2	1	1	0	0
Other	8	3	4	1	0
Method to track covers†					
Manual count	31	10	13	5	3
Specialised software	5	0	3	2	0
Other	3	0	0	2	1
Do not track covers	23	9	7	7	0
Teams covered†					
Male senior	62	19	23	16	4
Male academy	49	10	19	16	4
Female senior	15	7	6	2	0
Female academy	7	5	0	2	0
Academy age groups covered*†					
Professional Development phase (U17-U23)	49	10	19	16	4
Youth Development phase (U12-U16)	14	7	3	4	0
Foundation phase (U9-U11)	8	5	2	1	0
Catering service weekly food cost					
£10,000 or more	10	8	2	0	0
£6,000 to £9,999	12	8	2	1	1
£4,000 to £5,999	10	3	6	1	0
£2,000 to £3,999	13	0	8	5	0
£1,000 to £1,999	13	0	4	8	1
£999 or less	4	0	1	1	2
Senior team monthly charge					
£600 or more	1	1	0	0	0
£300 to £599	4	0	4	0	0
£150 to £299	23	6	11	5	1
£1 to £149	18	2	6	9	1
Free of charge	16	10	2	2	2
Academy teams monthly charge*					
£150 or more	1	1	0	0	0
£1 to £149	19	3	9	5	2
Free of charge	29	6	10	11	1
Staff monthly charge					
£150 or more	3	1	2	0	0
£1 to £149	23	6	11	6	0
Free of charge	19	10	2	4	3
Not specified or unknown charge	15	2	8	4	1
Staff not covered	2	0	0	2	0
Freedom to choose food suppliers					
Yes	45	12	16	13	4
No	17	7	7	3	0
Type of food supplier†					
National wholesale supplier	34	12	13	7	2
Local wholesale supplier	43	13	16	13	1
Retailer	19	8	5	5	1
Method to receive information for the service†					
Verbally from Nutritionist/Sports Science/Medical	44	12	18	11	3
Verbally from Manager/Players	24	8	10	6	0
Email and/or WhatsApp	49	14	20	11	4
Schedule planner	43	12	18	11	2
Team app	16	3	10	3	0

Data are presented as a heatmap; darker shades denote higher frequencies across and within divisions, relative to the number of participants per division and total

PL Premier League, *CH* Championship, *L1* League One, *L2* League Two

*Data from participants who responded their catering service covered academy teams

†Participants could select multiple answers

Phase (U9s-U11s) received considerably lower coverage. Premier League clubs typically spent £6,000 or more per week on food costs, with eight clubs spending £10,000 or more. Most Championship clubs spent between £2,000 and £5,999, while lower costs were reported in the League One and League Two, where the typical weekly spend was £1,999 or less.

Manual counting was the primary method for tracking covers, although over one-third of participants did not track covers at all. Most participants reported having freedom to choose food suppliers, with local wholesale suppliers (e.g., a butchery or fishmonger situated near the club training ground) being the most common option. However, around one-third of participants lacked autonomy in this regard. Charges for senior team catering services mostly ranged from £150 to £299 per month, with one-quarter of participants, predominantly from the Premier League, reporting that the service was provided free of charge. Catering services were mostly free of charge for academy teams, except in the League Two. Fifty-eight participants indicated that the catering service also covered club staff, with most paying between £1 and £149 per month, although some were given the option to pay per day (£4 – £6) or per meal (£3.5 – £5).

Sport nutrition knowledge and training

Forty-five participants self-rated their sport nutrition knowledge as 'good'. Five self-assessed their knowledge as 'excellent', while 12 participants described it as 'average'. None of the participants rated their sport nutrition knowledge as 'poor', or 'very poor'. Eighteen participants reported that they had received formal sport nutrition training, which included courses and certifications ($n=4$; e.g., Gatorade Sports Science Institute workshops, Precision Nutrition certification, International Society of Sports Nutrition certification), continuous professional development (CPD) ($n=4$; e.g., CPD with current or previous club nutritionists), sport nutrition-related diplomas ($n=4$; e.g., IOPN Diploma in Sports Nutrition, APEC Diploma in Performance Nutrition), and inclusion as part of their qualification curriculum ($n=2$). Four participants did not specify the training they had received.

Implementation of sport nutrition strategies

Key aspects of club nutrition strategy implementation are summarised in Fig. 3. Most participants in the Premier League worked with two nutritionists, though this could be up to four or more. Nine participants did not work with any nutritionists (Fig. 3A). Nearly half indicated having responsibility for providing nutrition advice to players, alongside the team nutritionist (Fig. 3B). For those who did not work with a nutritionist, this responsibility was assigned to sports science staff ($n=4$), the head chef and/or the chef team ($n=3$), or both ($n=2$).

Most participants reported adhering to a periodised nutrition approach (Fig. 3C), with 'always' being the most frequent response across the top three pyramid divisions. However, half of the participants indicated they did not have energy and/or nutrient targets for any services (e.g., a meal or snack provided by the club). This was the most frequent response across all football divisions (Fig. 3D). Two participants expressed uncertainty in their nutrition targets. Of those who referred having energy and/or nutrient targets, most used 'eye estimation' as the method to meet them. 'Weighed portions' was the most common method used to meet nutrition targets in the Premier League, with a decreasing trend in weighing food portions towards the lower divisions (Fig. 3E). Over a third of participants referred that individuals outside of the nutrition team – such as the manager ($n=12$), club CEO/owner ($n=2$), catering manager ($n=2$), director of performance ($n=1$), and senior coaches ($n=6$) – held the authority to overrule the nutrition strategy (Fig. 3F).

Use of supplements and bespoke nutritional items

Fifty-eight participants reported using nutritional supplements, while four 'never' used them (Premier League: $n=2$; League One: $n=1$; League Two: $n=1$). Over one-third used nutritional supplements 'always' or 'often' (Premier League: $n=7$; Championship: $n=10$; League One: $n=6$). In contrast, limited usage was reported in the League Two ('sometimes' or 'rarely'; $n=3$). The most common supplements used were whey protein ($n=56$), collagen supplements ($n=28$), polyphenol supplements ($n=17$), and beetroot and/or nitrate supplements ($n=13$). Fifty-three participants produced bespoke nutritional items (e.g., customised shakes) as an integral part of their catering services. This was more frequently reported ('always' or 'often') in the Premier League ($n=10$) and Championship ($n=13$), compared to lower frequencies ('sometimes', 'rarely', or 'never') in the League One ($n=9$) and League Two ($n=4$).

Post-match nutrition strategy

Forty-six participants reported frequently ('always' or 'often') participating in post-match menu planning (Premier League: $n=14$; Championship: $n=20$; League One; $n=12$). The catering approach for post-match food provision at home and away games is illustrated in Fig. 4. A 'hot buffet meal' was the preferred choice for home fixtures, except in the League Two (Fig. 4A). For away fixtures, the most common practice involved preparing food in advance (Fig. 4B). One participant from the Premier League mentioned that post-match food was not provided for home games, whereas four participants referred not providing post-match food for away games.

Regarding the composition of the typical post-match meal, 25 participants indicated that it consisted of a 'main dish + drink + dessert + recovery shake', predominantly in the Premier League ($n=10$) and Championship ($n=11$). Other reported meal structures included a 'main dish + drink + dessert' (Premier League: $n=7$; Championship: $n=8$; League One: $n=3$), 'main dish + drink' (Premier League: $n=2$; Championship: $n=4$; League One: $n=8$; League Two: $n=4$), and 'main dish + recovery shake' (League One: $n=1$).

Perspectives of the catering service and nutrition strategy

Participant perspectives on their club catering service and nutrition strategy are illustrated in Fig. 5. Nearly half of participants disagreed or strongly disagreed that their kitchen equipment was optimal for food processing and preparation (Fig. 5A). Approximately one-third of participants felt that the equipment layout and workspace did not support an efficient service (Fig. 5E) and that there was insufficient catering staff to cope with service tasks and demands (Fig. 5B). Conversely, most participants agreed or strongly agreed that the catering budget was adequate (Fig. 5C) and that the food supplies and ingredients were of the highest quality (Fig. 5D). The majority of participants strongly agreed that service was well-organised and delivered in a timely manner (Fig. 5F).

Regarding the club nutrition strategy, most participants agreed or strongly agreed that there was a clear strategy, which they were familiar with (Fig. 5G), and noted regular involvement in its implementation (Fig. 5H). However, most participants, across all leagues, were neutral or disagreed regarding the level of training provided to the chef team for effectively delivering the nutrition strategy (Fig. 5I).

Responsibilities and tasks

Chef responsibilities at the club training ground are displayed in Fig. 6. The tasks reported with the highest frequencies were 'menu planning' and 'training ground food provision' (Fig. 6D, E). 'Recipe development' was 'often' completed across all divisions (Fig. 6C). Most participants infrequently 'worked towards bespoke food specifications from suppliers' (Fig. 6A). 'Delivery of cooking workshops' was also an infrequent task across leagues (Fig. 6F). 'Manufacture whole foods into culinary ingredients' was more frequently completed in the top three divisions (Fig. 6B).

Chef responsibilities away from the club training ground are displayed in Fig. 7. Most participants from the Premier League and Championship 'always' travelled to home and away fixtures (Fig. 7A, B). 'Travelling to international fixtures/and or camps was predominantly reported in the Premier League (Fig. 7C). In

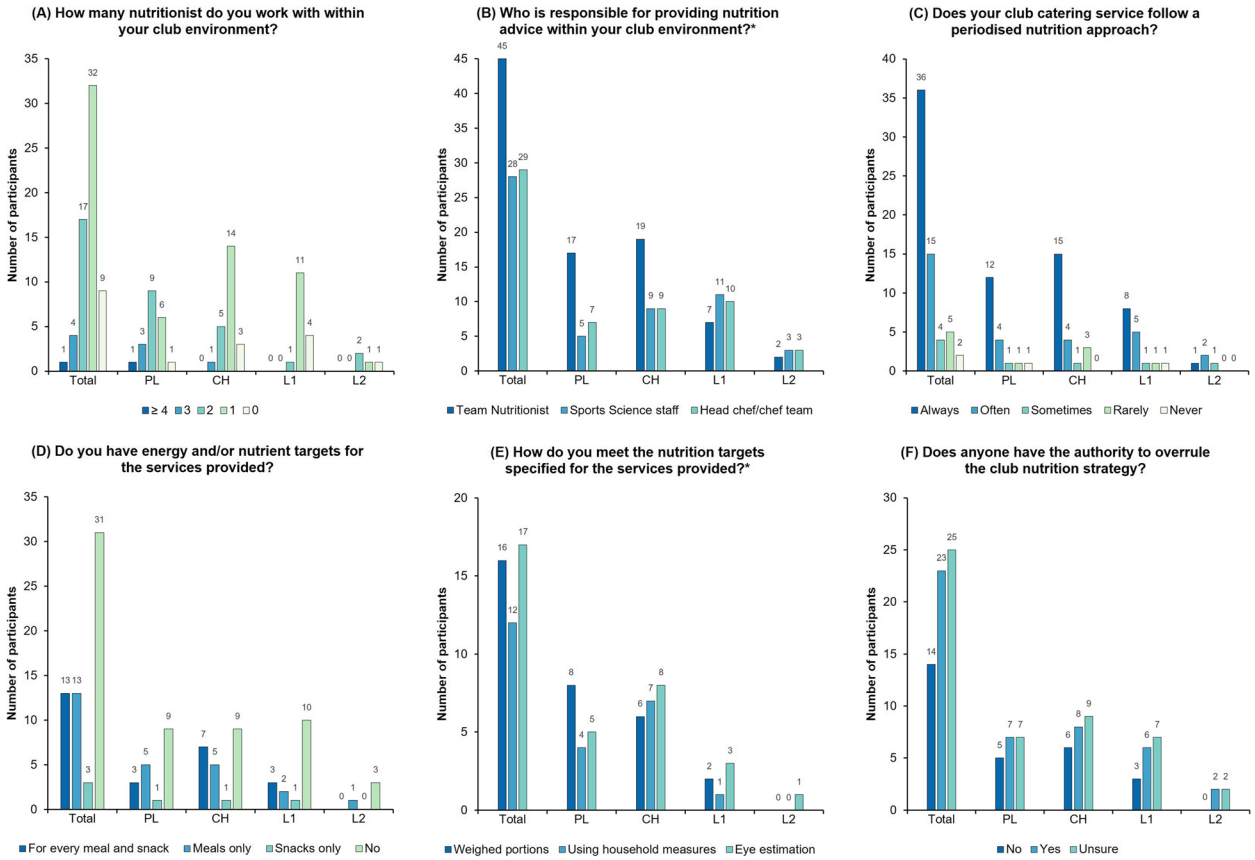

Fig. 3 Key aspects of club nutrition strategy implementation. *Participants could select multiple answers. (E) question displayed only to participants who answered to have nutrition targets. Premier League (PL, *n* = 19); Championship (CH, *n* = 23); League One (L1, *n* = 16); League Two (L2, *n* = 4)

contrast, most participants from the League One and League Two infrequently travelled to any type of fixtures (Fig. 7A, B, C). 'Hotel menu planning' and 'away hotel food provision' were tasks mainly completed in the Premier League (Fig. 7D, E). Thirty-nine participants reported interacting with hotel chefs, exclusively from the top three divisions (Premier League: $n = 19$; Championship: $n = 15$; League One: $n = 5$), of which 33 rated this interaction as 'excellent' or 'good', while six rated their experience as 'average' or 'poor'. 'Stadium food provision' was completed evenly across all divisions (Fig. 7F).

Performance evaluation

Thirty-four participants disclosed that their performance was assessed subjectively by relevant club staff (Premier League: $n = 9$; Championship: $n = 14$; League One: $n = 8$; League Two: $n = 3$). Forms of subjective assessment included 'comments from the manager and coaching staff', 'feedback from the club nutritionist', 'appraisals from the line manager', and 'feedback from players'. Eighteen participants indicated the use of key performance indicators for their performance evaluation, which were more common in the Premier League ($n = 8$) compared to the lower divisions (Championship: $n = 4$; League One: $n = 5$; League Two: $n = 1$). Six participants reported undergoing formal performance reviews, such as quarterly or seasonal target assessments. Three participants indicated that team results were the basis of their assessment, whereas one participant from the Championship stated that their performance was not evaluated.

Food provision in clubs without an eligible participant

Fifteen gatekeepers (e.g., club staff such as the first team nutritionist or head of performance) responded that their clubs did not employ any eligible chefs (Championship: $n = 1$; League One: $n = 4$; League Two: $n = 10$). Of these, 13 provided a description of their club food provision across training and/or match days.

Nine indicated that food provision for training days was outsourced to a meal prep company (Championship: $n = 1$; League One: $n = 2$; League Two: $n = 6$). Of these,

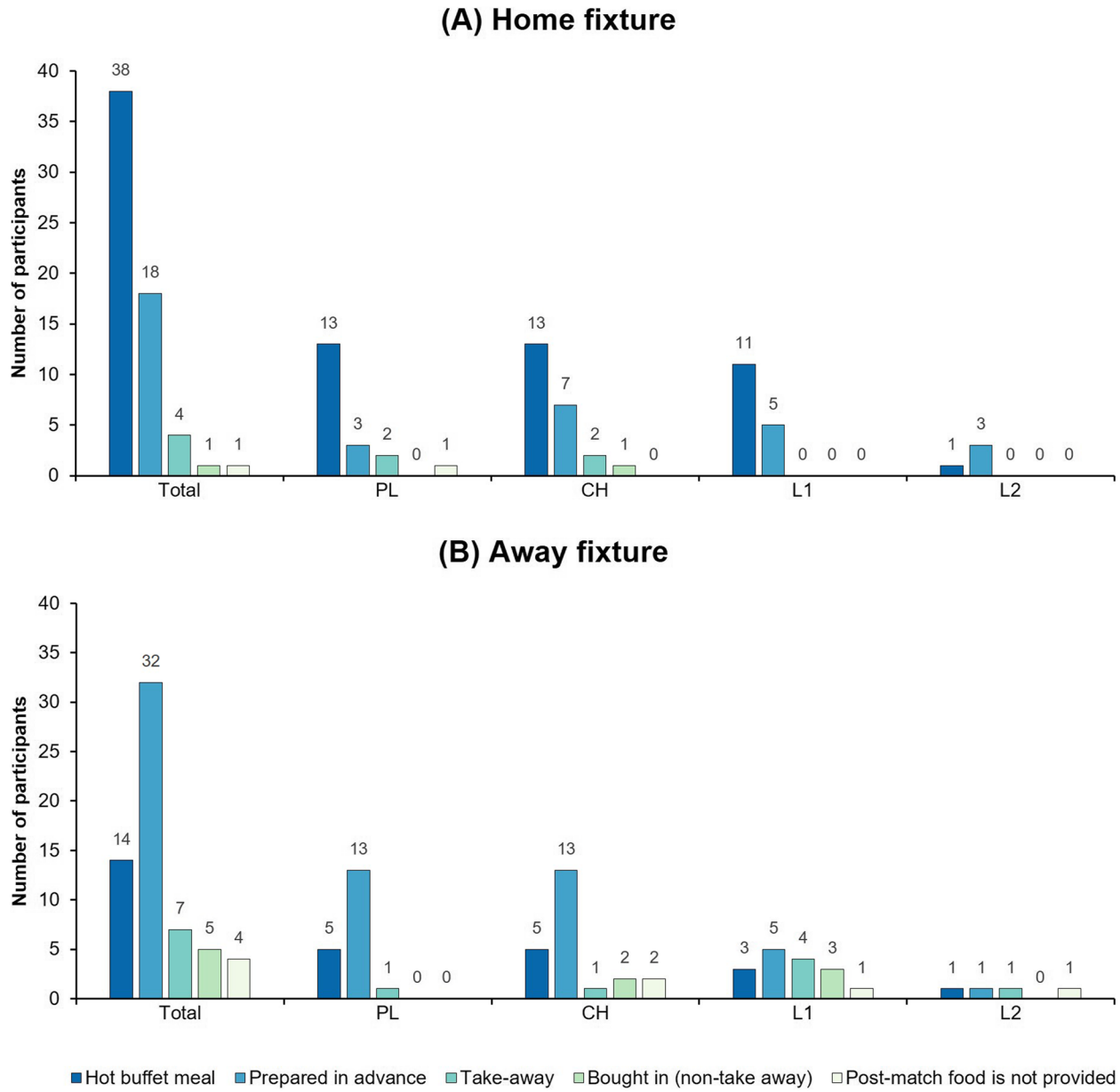

Fig. 4 Styles of catering for post-match food provision at home and away fixtures. Premier League (PL, *n* = 19); Championship (CH, *n* = 23); League One (L1, *n* = 16); League Two (L2, *n* = 4)

three provided both breakfast and post-training food, while six provided only post-training food (e.g., lunch). Additionally, two gatekeepers mentioned that the meal prep company also supplied food for match days (League One: $n=1$; League Two: $n=1$). One gatekeeper from the League One reported that food was provided by a local college for training days and post-match. Another gatekeeper from the League Two indicated that the first team trained at a university, where players were provided with meals from the university canteen based on the available offerings for the day. Two gatekeepers mentioned that food was not provided by the club on training days (League One: $n=1$; League Two: $n=1$). Two gatekeepers referred that they employed a chef at their home hotel who provided pre- and post-match food (Championship: $n=1$; League Two: $n=1$). Four gatekeepers mentioned that the club purchased a takeaway meal (e.g., pizza) for post-match food (League One: $n=1$; League Two: $n=3$).

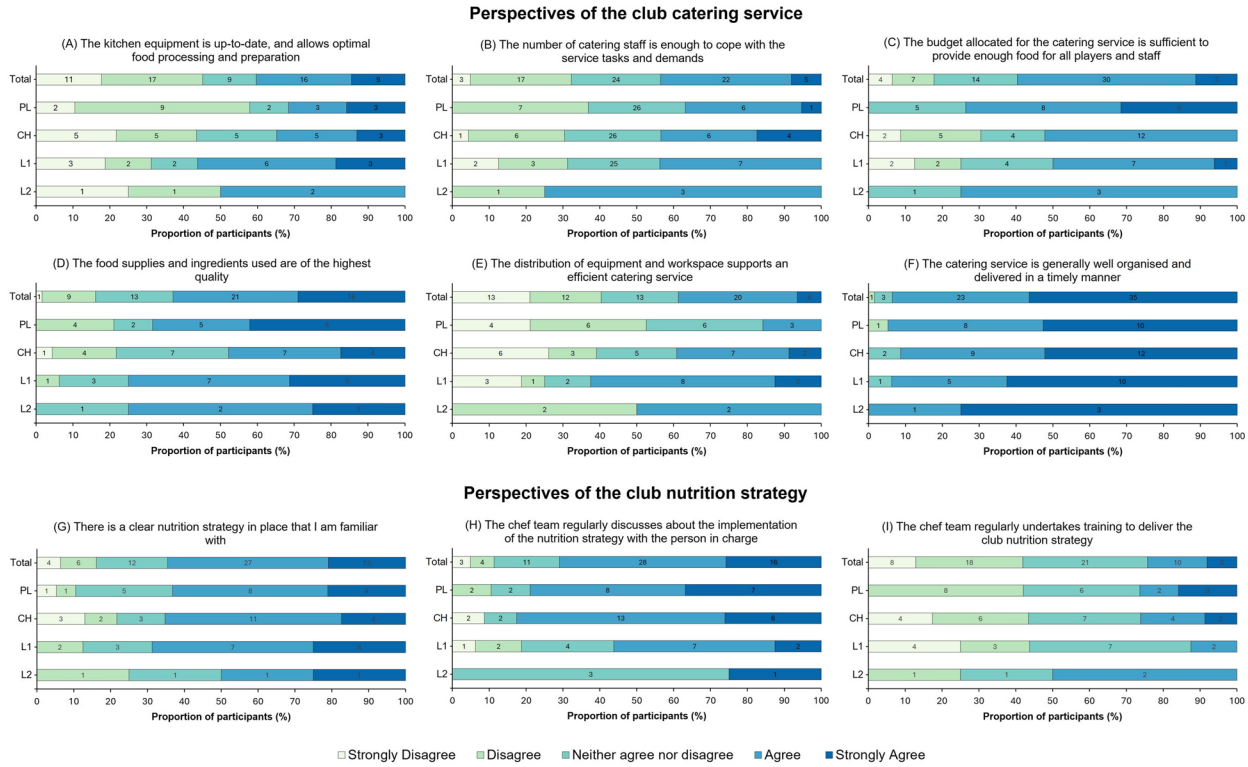

Fig. 5 Participant perspectives of the club catering service and nutrition strategy. The number of participant responses is presented inside the bar charts. Premier League (PL, *n* = 19); Championship (CH, *n* = 23); League One (L1, *n* = 16); League Two (L2, *n* = 4)

Discussion

This study provides the first exploration of the role(s) of chefs, and catering services within English professional football. The findings indicate that chefs are employed by the majority of football clubs on full-time permanent contracts, possess significant experience, and demonstrate a comprehensive understanding of their role. In addition to their customary culinary and managerial-related duties, chefs often undertake non-traditional responsibilities such as providing nutrition advice to players and using nutritional supplements. Inconsistencies in the implementation of nutrition strategies and catering practices across all leagues were identified, potentially hindering the quality of nutrition provision. To address these issues, the development of a quality assurance framework for chefs working in football should be explored. Intentional efforts by football organisations to integrate chefs more closely within the club performance department could also be encouraged. We further advocate for a consistent approach to monitoring and evaluating the quality of catering services. Such actions may support chefs in carrying out their roles effectively, thereby advancing their careers in football.

Chefs are predominantly male and fall within the 35 to 44 age group. Of the 62 participants surveyed, only six were female, indicating an underrepresentation of women in this sector. This study also highlights diverse career pathways and qualifications for a chef role, alongside several cases where chefs lacked formal qualifications. The diversity in educational backgrounds denotes a lack of standardised benchmarks for a chef role within football, which presents challenges for professional development, recruitment, and quality assurance. In contrast, uniformity is observed in the requirement of food hygiene certification, with most chefs holding a Level 3 certificate. To elevate professional standards and establish a clearer career pathway, it is essential to develop a quality assurance framework (e.g., standardised qualifications and professional certifications) for chefs working, or aspiring to work, in professional football and the broader sport setting. A framework for chefs could align with current accreditation processes for nutrition professionals, such as the Sport and Exercise Nutrition Register and accredited courses for sport nutritionists in the United Kingdom [15, 16]. However, it should not mirror the same academic rigour or require identical role competencies. Instead, the focus should be on enhancing practical culinary expertise that enables chefs to adhere to athlete-focused nutrition guidelines within a high-performance environment. This may also involve clearly

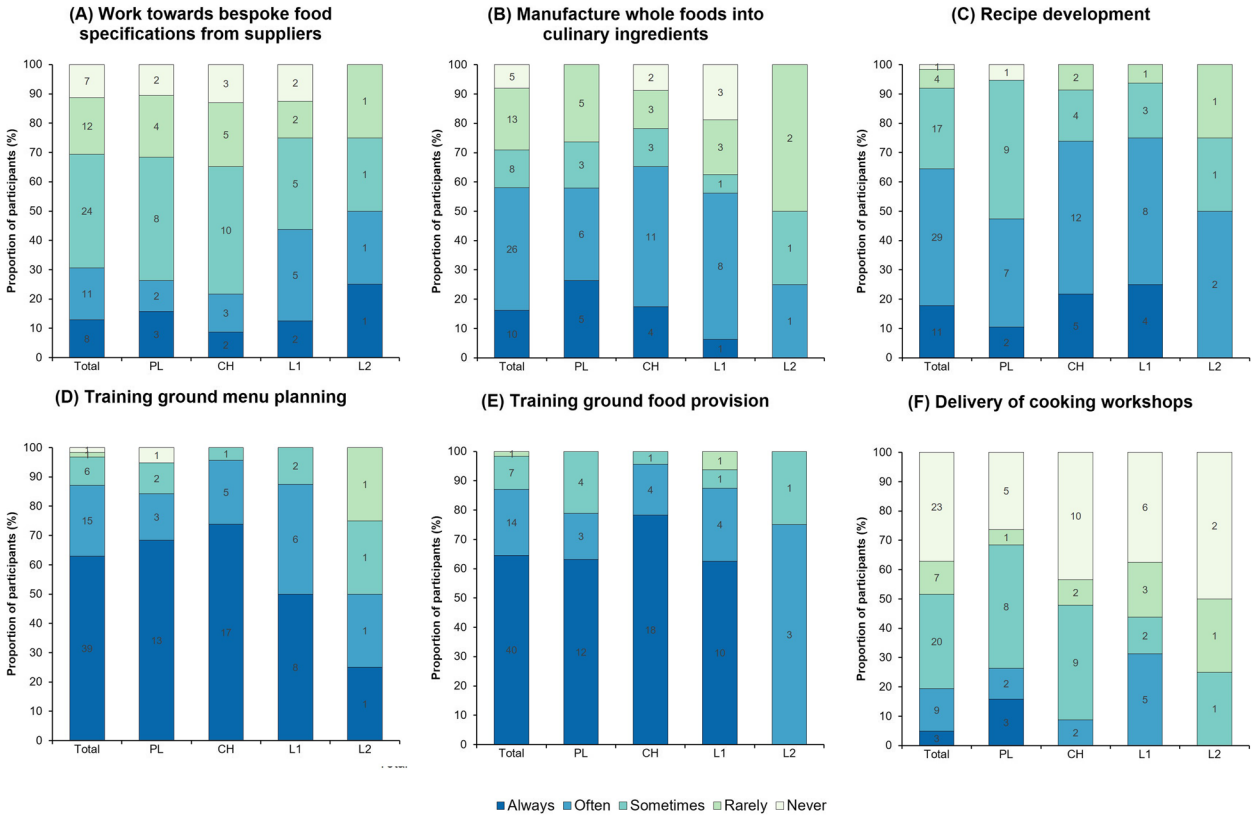

Fig. 6 Chef team responsibilities at the club training ground. The number of participant responses is presented inside the bar charts. Premier League (PL, *n* = 19); Championship (CH, *n* = 23); League One (L1, *n* = 16); League Two (L2, *n* = 4)

defined roles and responsibilities for the sport chef. Such a distinction would support the advancement of the chef profession without encroaching upon the defined responsibilities of accredited sport nutritionists.

Chefs possess substantial general work experience, which contrasts with their relatively shorter experience in football (i.e., 24 vs 8 years of experience). This variance highlights the emerging nature of the chef role in professional football. Additionally, the short tenure of chefs within their respective clubs, with most having one to three years of service, may suggest a high turnover rate in these positions. Chefs work an average of 45 hours per week, with those in the Premier League averaging 51 hours per week. These figures exceed standard full-time work expectations and align with broader patterns observed within the hospitality sector at large, where extended hours are associated with heightened occupational stress and health complaints, adversely impacting the quality of life for chefs [17]. Such scenario underscores the importance of thoroughly understanding the experiences and challenges faced by chefs in their positions. To address this, a professional regulatory professional body should be established, tasked with supporting the careers and well-being of chefs working in sports. Such a professional body could also promote standardised performance review practices, ensuring the profession develops in a systematic and best-practice oriented manner. This would help address the current heterogeneity in evaluation methods and the lack of a unified framework for assessing the quality of catering services within professional football.

Chefs generally demonstrate a comprehensive understanding of their role by emphasising the provision of nutritionally balanced, high-quality, and palatable food to support player performance, recovery, and meet individual nutritional needs. The term 'performance' was included in the job titles of one-quarter of respondents, which may inadvertently diminish the perceived importance of player health to their athletic performance. To better reflect the dual emphasis on health and performance and align with the professional designation for sport nutritionists by the British Dietetic Association [15], we advocate for the title 'sport' chef. Such nomenclature encapsulates an integral approach to support player welfare, acknowledging the role chefs play in facilitating adequate nutrition intake within diverse sporting

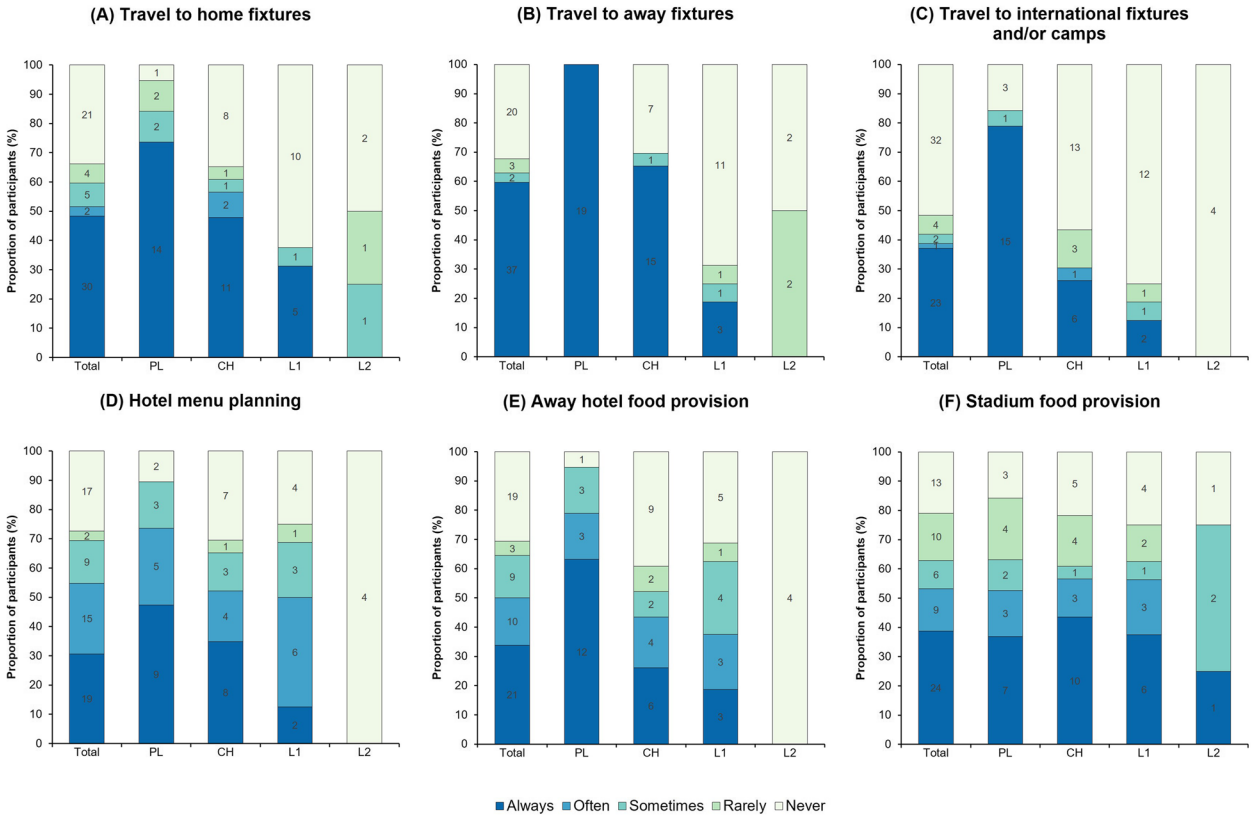

Fig. 7 Chef team responsibilities away from the club training ground. The number of participant responses is presented inside the bar charts. Premier League (PL, *n* = 19); Championship (CH, *n* = 23); League One (L1, *n* = 16); League Two (L2, *n* = 4)

environments. This title may be used upon completion of appropriate accreditation pathways, including demonstrated practical experience and training in sport nutrition fundamentals. Regarding remuneration, typical annual earnings range between £25,000 and £49,999, with exceptions in the Premier League, where incomes can occasionally exceed £75,000. However, additional compensation is rare, with team-performance bonuses being the most common incentive, reported by around 25% of participants. We encourage the inclusion of chefs in performance-based bonus structures to enhance their engagement within the club performance goals, thereby recognising their contributions to the well-being and performance of players and staff.

Catering services, especially in the Premier League, are typically year-round, seven-day operations that provide two services per day, with a decline in the scale of operations towards the lower divisions. Premier League clubs mostly employ a larger number of chefs (e.g., four or more) and additional catering staff, compared to all EFL divisions, where the number of chefs generally ranges from one to three. There is a stark contrast in the food costs of Premier League clubs, where 42% of clubs spend £10,000 or more per week, resulting in an annual budget of over £520,000, compared to costs mostly ranging from £1,000 to £3,999 per week in the lower divisions. This difference in budgets and staffing levels likely contributes to the reduced operations, highlighting the impact of financial and human resources on nutrition provision. Despite the significant resource allocation, several chefs do not track their covers, potentially impacting operational efficiency. Concerningly, 27% of chefs lack freedom to select their own food suppliers, which may compromise the quality of their food supply chain. Given the importance of ingredient freshness and the environmental impact of food transportation [18], we advocate for granting chefs the autonomy to source from suppliers, preferably local ones. This approach enhances control over ingredient specifications, nutritional value, and delivery needs, while also supporting local businesses and reducing the environmental footprint of football clubs.

This study identified inconsistencies in the integration of nutrition strategies. For example, around 50% of chefs provide nutrition advice to players, while nearly all employ nutritional supplements and produce bespoke nutritional items. Although these tasks could be handled

by chefs with appropriate preparation, we found that only 18 participants had undertaken formal sport nutrition training, and approximately 75% were dissatisfied with the level of training provided by their clubs to deliver the nutrition strategy. Despite 80.6% of chefs self-rating their sport nutrition knowledge as either 'good' or 'excellent', our findings highlight a significant gap in formal training opportunities for chefs, reinforcing the need for chef-specific sport nutrition education. Although chefs possess a broader range of expertise in food preparation and catering operations, sport dietitians are widely recognised as the most appropriate professionals for providing nutrition advice to athletes [19]. Therefore, we advocate for a collaborative approach in which the expertise of both sport nutritionists and chefs is equally respected, drawing on the unique yet synergistic strengths of both roles to effectively implement sport nutrition strategies within the football club environment.

Inconsistencies in catering practices were also identified. For instance, although 82% of chefs reports frequent adherence to a periodised nutrition approach, 50% lack defined energy and/or macronutrient targets for their services (e.g., a meal provided by the club). Among those with targets, 45% do not use food weighing to meet them, opting instead for less accurate methods. This raises concerns regarding the practical application of nutrition periodisation, as clearly defined targets (e.g., carbohydrate targets) are essential for tailoring meal choices and food quantities to meet the specific fuelling demands of training and competition. This is particularly important given that contemporary guidelines emphasise a more nuanced approach to carbohydrate recommendations, accounting by both meal-by-meal and day-by-day needs [20]. Additionally, nearly a third of participants indicated that their nutrition strategies could be overruled by non-specialist staff, predominantly managers. This interference undermines the chef capabilities, potentially leading to reduced innovation in catering practices and decreased job satisfaction. The fact that over 50% of chefs were evaluated subjectively raises concerns about the need for systematic and fair evaluation approaches.

Our findings revealed disparities in catering services between leagues, particularly notable in absence of chefs at 15 clubs from the EFL divisions, including 10 in the League Two. The four clubs from this division each employ only one chef, with three of them also serving as the sole catering staff. Conversely, greater emphasis on catering services is observed in the Premier League, especially for tasks performed away from the training ground. For example, nearly all chefs in this division travel to all types of fixtures, are involved in hotel menu planning and food provision, and coordinate post-match menu strategies. Involvement in these tasks decreases in the lower divisions, reflecting a lower level of specificity within the chef responsibilities. This landscape is particularly concerning in the League Two, where nutrition standards may be more significantly compromised. For example, a 'main dish + drink' was the only post-match meal structure reported in this league, whereas more complete structures are commonly provided in the top two divisions. Given the increased physical and technical demands of modern football [1], which may also extend to the League Two [21, 22], awareness should be raised regarding the extent and quality of nutrition provision in the lower divisions. This is important, as evidence suggests that the physical demands in these leagues could be higher. For example, Championship and League One players may cover more high intensity running distance during match play than those in the Premier League [23, 24].

Notably, a clear gender inequity in catering service coverage for female teams was identified, with less than 25% of clubs catering for female senior teams, and only 11% for female academy teams. Although our study did not specifically focus on women's football, the vast majority of participating clubs had a women's team at the time of participation, according to publicly available club information (e.g., club websites). This highlights a landscape in which female players receive limited catering service provision compared to their male counterparts, both at senior and academy levels. Our finding spotlights growing calls for a gendered environmental approach to understanding the contextual influences on female player health and performance, beyond traditional biological differences [25]. For instance, limited food provision, may negatively affect the physiological well-being of young female players. This is particularly concerning given their increased nutritional needs during critical growth and maturation phases [26, 27], prevalent sub-optimal nutritional status [28], and the increased demands of training and matches [29, 30]. These factors could increase injury risks, particularly for anterior cruciate ligament injuries, to which women are 2–8 times more susceptible than men [31]. This scenario underscores the need for enhanced nutrition services to support the welfare of female players, amidst the professionalisation of the women's game.

Strengths, limitations, and future directions

The strength of this study lies in its robust sample, representing a substantial proportion of clubs from the top four divisions of English football. Of the 92 clubs, 62 (67.4%) participated, with the participation rate increasing to 80.5% (62 of 77 clubs) when accounting only for those that employed a chef. In addition, the comprehensive information collected through the survey allowed

for a detailed exploration of the chef roles and catering service characteristics. However, the small number of participants from the League Two was a limitation as it posed challenges for comparative analysis and league representativeness. This low response rate can likely be attributed to the absence of chefs in most clubs within this division. Specifically, only eight clubs employed a chef (four of whom completed the survey), while 10 clubs did not employ any chefs, and six clubs did not respond to our communications. It must be noted that our findings exclusively reflect data from the 2022–2023 football season. These leagues are subject to change due to the dynamic nature of football. The survey piloting process with experienced chefs enhanced the study rigour, ensuring the cultural relevance of the survey questions. While self-reported data were collected, we mitigated concerns of social desirability reporting by exclusively inviting participants in supervisory positions. Generalising these findings to other football leagues should be done cautiously, although some resonance in overseas contexts is anticipated. As a future direction, qualitative research should investigate the perspectives of chefs on the challenges of implementing their club nutrition strategy. Additionally, given the increasing presence of female chefs in the culinary industry [32], further research is required to understand their (gendered) experiences within the sport performance sector. The exclusion of private player chefs and football hospitality chefs constitutes a gap for future exploration.

Practical applications

The findings from this study can be used to optimise evidence-based sport nutrition strategies and related catering practices within English professional football clubs, enhancing both the working practices of sport chefs and the overall quality standards within this emerging industry. Football organisations should consider implementing a quality assurance framework that includes professional certifications for chefs, which can also improve recruitment practices by ensuring chefs are well-prepared to deliver tailored sport nutrition strategies, aligned with best practices. Closer integration of chefs with performance and medical teams, along with ongoing sport-specific nutrition education and efforts to address gender disparities in catering services, will enhance the nutritional support available to all players, including female athletes. Additionally, initiatives to monitor service quality and encourage the use of local food suppliers can align nutritional practices with player performance and sustainability goals. These measures can further enhance player health, performance, and wellbeing across all divisions of the English football pyramid.

Conclusion

In summary, chefs undertake key roles both at and away from the club training ground to implement sport nutrition strategies across the diverse football environments. Inconsistencies in strategy implementation and catering practices were identified, alongside league disparities and gender inequalities in service provision. These discrepancies may compromise nutrition standards and hinder the quality of nutrition provision, especially for the lower pyramid divisions. Our findings underscore the need for a quality-assurance framework for 'sport' chef accreditation, increased opportunities for chef-tailored sport nutrition education and training, and the establishment of a regulatory body to support the practice of chefs working in professional football. Moving forward, increased resources should be considered to bridge the gap in catering service provision between leagues, with special attention given to the female player. This study offers valuable insights for enhancing the practical delivery of evidence-based sport nutrition strategies in football, from an often-overlooked group in applied research and practice.

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Authors' contributions

AA: Conceptualisation, Methodology, Data collection, Data analysis, Writing, Editing. MB, SB, NC: Conceptualisation, Methodology, Data analysis, Review, Editing, Supervision. PB: Data collection, Data analysis, Review, Editing.

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Data availability

The datasets used and/or analysed during the current study are available from the corresponding author [NC], on reasonable request.

Declarations

Ethics approval and consent to participate

Ethical approval for this study was obtained from Leeds Beckett University Research Ethics Committee (approval ref: 112377). All participants provided informed consent to participate.

Consent for publication

All participants provided informed consent for their data to be published.

Competing interests

The authors declare no competing interests.

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