Protein supplementation; a cross-sectional survey of the perceived benefits among amateur sports people in relation to their exercise behaviour

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Background
The protein supplement industry is increasing in the UK, with consumers spending £66 million in 2015 (Mintel, 2016). Protein supplement manufacturers make claims on the perceived benefits of high protein products, these claims may be inconsistent with the evidence base (Pajor et al., 2017). This may have lead to many athletes considering protein supplements to be essential to their sporting goals and success. This common misconception may be related to individuals gaining information from these unregulated sources. Pajor et al. (2017) claim that many protein supplement users do not value nutritional knowledge from healthcare professionals.

The evidence base suggests that protein intake with carbohydrate in a 1:4 ratio may provide the most benefit (Stearns et al., 2010). Furthermore, Hansen et al. (2016) found that protein supplementation did not improve recovery, performance or endurance.

The aim of this study was to investigate the perceived benefits of protein supplementation among amateur sports people in relation to their exercise behaviour.

Method
A cross-sectional study of amateur sports people over the age of age 18 years. A self-administered questionnaire comprised of 12 questions was used to gather data on participants demographics, prevalence of protein supplement use, reasons and beliefs for using protein supplements and exercise behaviour.

Results
A total of 55 participants completed the questionnaire. Most participants were aged 25-34 years (n=28, 51%). 64% (n=35) of participants used protein supplements. Female participants made up 33% of the participant sample. A Pearson Chi-Square test indicated the difference in genders was statistically non-significant (p=0.750).

Table 1. Types of exercise by participants. An equal quantity of respondents who use protein supplements took part in endurance, strength, and cardio exercises. Participants that took part in endurance exercises were more likely to use protein supplements. This was statistically significant (p<0.001).

<table>
<thead>
<tr>
<th>Type of exercise</th>
<th>PARTICIPANTS THAT USE PROTEIN SUPPLEMENTS</th>
<th>PARTICIPANTS THAT DO NOT USE PROTEIN SUPPLEMENTS</th>
<th>P VALUE (PEARSON CHI-SQUARE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strength</td>
<td>23 (72%)</td>
<td>9 (28%)</td>
<td>0.134</td>
</tr>
<tr>
<td>Cardio</td>
<td>23 (61%)</td>
<td>15 (39%)</td>
<td>0.473</td>
</tr>
<tr>
<td>Endurance</td>
<td>23 (88%)</td>
<td>3 (12%)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Low Intensity</td>
<td>13 (52%)</td>
<td>12 (48%)</td>
<td>0.101</td>
</tr>
</tbody>
</table>

The most common source of knowledge was team mates and exercise partners (n=19). Only 6 participants selected Healthcare professionals as a source of knowledge. 100% (n=6) of participants that chose healthcare professionals as a source of knowledge considered protein to carbohydrate ratio as important.

Discussion and Conclusion
Previous research has found that protein supplementation is most prevalent among those who use it for strength exercises (Sanchez et al., 2011). The present study contrasts this as participants who take part in endurance exercise were more likely to use protein supplements. Furthermore, the present study found that fewer participants considered muscle and strength as important as improving recovery time, or the highest protein content.

100% (n=6) of participants who selected healthcare professionals as a source of knowledge considered protein to carbohydrate ratio to be important. These findings suggest that a considerable portion of participants may not have evidence based information.

Future research should consider a larger sample size, as well as specifically targeting individuals who use protein supplements. Use of a questionnaire specifically targeting participants’ beliefs on protein supplements may provide greater in-depth analysis than drawing conclusions from trends in data. In conclusion, the present study highlighted that many amateur sports people obtain information from unregulated sources, therefore their beliefs may not be evidence based.

References
Hansen, M., Bangsbo, J., Jensen, J., Krause-Jensen, M., Bibby, B., Sollie, Ø., . . . Madsen, K. (2016). Protein intake during training sessions has no effect on performance and recovery during a strenuous training camp for elite cyclists.