

Please read full instructions before commencing writing

Exam paper information:

Essay Questions - Answer 2 out of 6

Data Interpretation - Answer all parts (a to d; weighted equally)

Special instructions

- You will submit a single document with all your exam responses in it.
- The document layout will be 11pt font size, single line spacing (1.0), with normal margins (default in MS Word of 2.54cm all round).
- Please do not deviate from the document layout - it is the same for all - this will result in approximately 750 words per page.
- You can write up to one page for each essay and one page for the data question (all 4 parts a to d) - this will result in 3 main pages of text and approximately 2250 words.
- If the writing for one question exceeds 1 page this is OK providing the overall page count does not exceed 3 main pages of text.
- Include in-text citations in APA format - these will contribute to the word count/page count.
- You should include a reference list in APA format of up to one page - this will not be included in the word count/page count.
- Most people should therefore be submitting a 4 page document.

Special items

- None

Essay questions answer 2 out of 6 (30% of exam per essay)

QUESTION 1

Milk-based drinks are popular among some athletes and there are now more plant-based alternatives available such as soy milk. Consider the issues and evaluate whether you think milk is suitable as a 'sports-drink'?

QUESTION 2

As a practitioner, you are aiming to track changes in body mass, fat mass and fat free mass during a change in nutrition over a 6 month period with one of your female athletes. Identifying the sport and level of competition yourself, outline the method and approach you would take to assess these outcomes, including frequency (50% of marks) and explain why you chose this method and approach (50% of marks).

QUESTION 3

With regard the use of nutritional supplements for endurance performance; what is the evidence for beneficial effects among those supplements which do not involve macronutrient or fluid ingestion? How might this evidence be implemented with athletes in the most appropriate way?

QUESTION 4

With regard probiotic ingestion and exercise performance; what is the evidence and what does it tell us? What are the implications for study designs intended to take this emerging field forward and establish the effectiveness of probiotics?

QUESTION 5

With regard to nutritional periodization and personalized nutrition; define what is meant by these terms and explain their importance and relevance within nutrition for sport?

QUESTION 6

Referring to current literature on carbohydrate and fluid intake describe and justify an appropriate carbohydrate and fluid intake strategy for two time-trial exercises lasting 30-75 min *AND* lasting 2-4 hours. Include in your answer a clear comparison of the strategies.

Data Interpretation 40% of exam paper

Answer all parts (a to d; weighted equally)

A recent systematic review examined the effects of a commercially available nutritional supplement. Commercial claims for the supplement state that it can augment the effects of resistance training in terms of benefits to strength and body composition. The researchers included studies which compared the supplement to a placebo among participants who were all engaged in resistance training. The outcomes of interest were muscle strength and body mass/body composition. A total of 10 studies were included in the review and meta analyses was used to pool the data and calculate effect sizes (mean differences) and 95% CI (confidence intervals).

Meta analyses of maximum muscle strength outcomes (1 repetition maximum) for upper and lower body were performed. The Forest plot is not shown but the pooled effect sizes (and 95% CI) were; bench press strength 0.50 kg (95% CI -1.62, 1.65) and squat strength 2.71 kg (95% CI: -2.40, 8.03). The direction of these effects favoured the nutritional supplement.

Meta analyses of body mass/body composition outcomes were performed and the Forest plot is shown below in Figure 1.

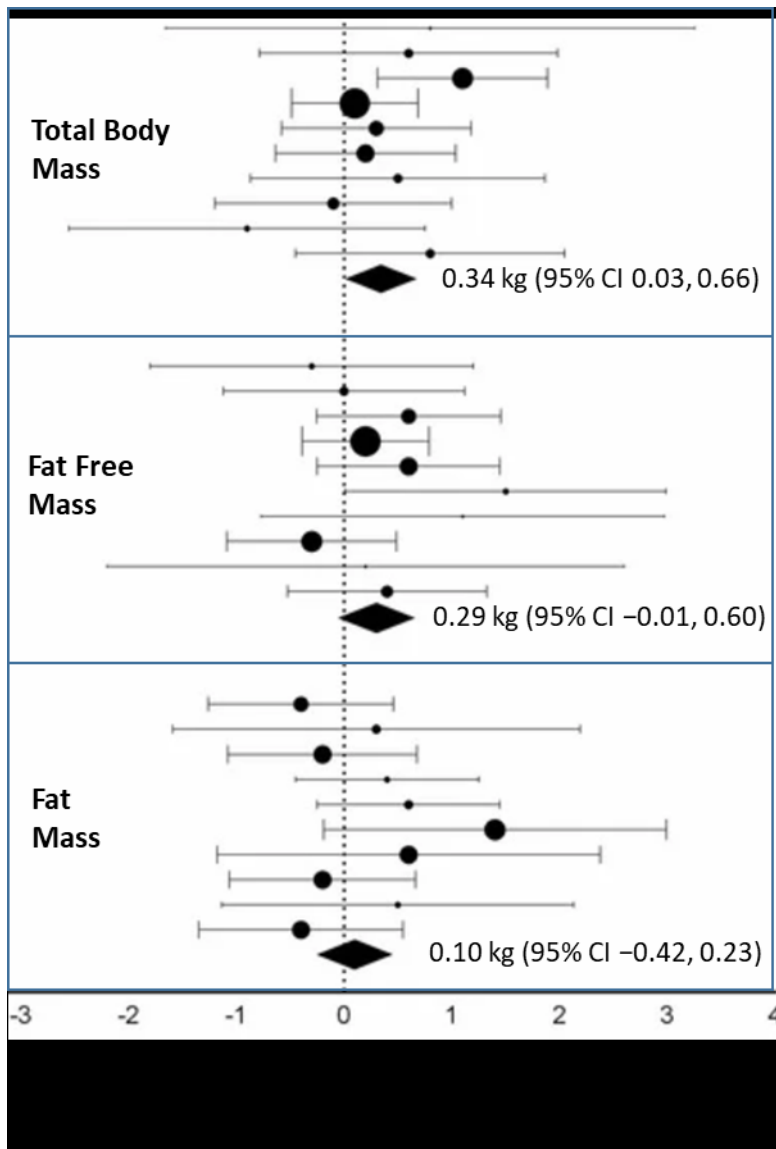


Figure 1. Meta analysis comparing the effects on body mass and body composition of nutritional supplement compared with a placebo in n=10 included studies. Data are presented for three types of outcome measure (total, fat-free and fat mass).

Data points represent the effect size (● mean difference & 95% CI) for each of the 10 included studies. The size of the study effect size marker (●) represents its relative weighting and contribution to the pooled effect size (◆) for each of the three outcome measures. The numerical data on the graph represent the pooled effect size (and 95% CI) for each of the three outcome measures.

The vertical dashed line represents the line of no effect.

QUESTIONS;

- a) With regard to the participants in the included studies; explain the factors/variables within the participants which could be influential and important to define and be aware of in a synthesis like this systematic review?
- b) Describe the likely experimental design of the studies that were included in this systematic review.
- c) Based only on the limited information and results that are presented above, interpret the findings as far as you can.
- d) Speculate on what you think the unidentified nutritional supplement could be; explain and justify your answer.