Rev Esp Nutr Hum Diet. 2025; 29(4).
doi: 10.14306/renhyd.29.3.2456 [ahead of print]
Freely available online - OPEN ACCESS

Revista Española de Nutrición Humana y Dietética

Spanish Journal of Human Nutrition and Dietetics

INVESTIGACIÓN – versión *post-print*

Esta es la versión aceptada para publicación. El artículo puede recibir modificaciones de estilo y de formato.

Association of body composition, growth, and maturation status with physical activity and adherence with mediterranean diet in youth triathletes: research protocol

Asociación de la composición corporal, el crecimiento y el estado de maduración con la actividad física y la adherencia a la dieta mediterránea en triatletas jóvenes: protocolo de investigación

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Received: 04/04/2025; Accepted: 08/10/2025; Published: 26/11/2025.

Assigned editor: Diego A Bonilla, División de Investigación, Dynamical Business & Science Society – DBSS International SAS, Bogotá, Colombia.

CITE: Meléndez-Oliva E, Romero-García D, Martínez-Sanz JM, Cifuentes A, Hernández-Lepe MA, Ausó E. Association of body composition, growth, and maturation status with physical activity and adherence with mediterranean diet in youth triathletes: research protocol. Rev Esp Nutr Hum Diet. 2025; 29(4). doi: 10.14306/renhyd.29.3.2456 [ahead of print].

ABSTRACT

Introduction: Triathlon combines swimming, cycling, and running. Performance is influenced by body composition, nutrition, physical activity, and biological maturation. Excess body fat has been linked to reduced performance, but due to the novelty of triathlon in youth, data on body composition are limited. During maturation, increased metabolic demands highlight the need for proper nutrition to support growth and recovery. In children and adolescents, adherence to the Mediterranean diet is associated with healthier habits and better quality of life. This study aims to determine whether physical activity and adherence to the Mediterranean diet influence body composition, growth, and maturation in young triathletes.

Methodology: A six-year prospective analytical observational dynamic cohort study will be conducted with triathletes aged 5–17 from the Adesavi school (San Vicente del Raspeig, Spain). Body composition and biological maturation will be assessed using anthropometric measures. Dietary habits will be evaluated with the KIDMED test, and physical activity level with the APALQ test. Assessments will occur twice a year: pre-season and post-season.

Expected Results: We expect to identify associations between adherence to the Mediterranean diet, physical activity, and outcomes like body composition, growth, and somatic maturation. Specifically, higher adherence to the Mediterranean diet and higher physical activity levels are expected to relate to lower fat mass, greater muscle mass, and more favorable maturation patterns. The findings may help tailor nutritional and training

strategies for young athletes and provide valuable longitudinal data to support future interventions in youth endurance sports.

Funding: This project has no funding, but falls within the research activity contract between the University of Alicante and ADESAVI (REF: ADESAVI1-22X).

Keywords: Triathlon, biological maturation, anthropometry, body composition, Mediterranean diet, physical activity.

PROTOCOL REGISTRATION/PUBLISHING: *ClinicalTrials.gov*: NCT06534567 (August 2024).

RESUMEN

Introducción: El triatlón combina natación, ciclismo y carrera a pie. El rendimiento en este deporte está influido por la composición corporal, la nutrición, la actividad física y la maduración biológica. Se ha relacionado un exceso de grasa corporal con un menor rendimiento; sin embargo, debido a la reciente incorporación del triatlón en edades tempranas, existen pocos datos sobre la composición corporal en triatletas jóvenes. Durante la maduración, el aumento de las demandas metabólicas resalta la necesidad de una nutrición adecuada que apoye el crecimiento y la recuperación. En niños y adolescentes, la adherencia a la dieta mediterránea se asocia con hábitos de vida más saludables y una mejor calidad de vida. Este estudio tiene como objetivo determinar si la actividad física y la adherencia a la dieta mediterránea influyen en la composición corporal, el crecimiento y la maduración de triatletas jóvenes.

Metodología: Se llevará a cabo un estudio de cohorte dinámico, analítico, observacional y prospectivo con una duración de seis años, con triatletas de entre 5 y 17 años de la escuela Adesavi (San Vicente del Raspeig, España). La composición corporal y la maduración biológica se evaluarán mediante medidas antropométricas. Los hábitos alimentarios se valorarán con el test KIDMED y el nivel de actividad física con el test APALQ. Las evaluaciones se realizarán dos veces al año: en pretemporada y en postemporada.

Resultados esperados: Se espera identificar asociaciones entre la adherencia a la dieta mediterránea, el nivel de actividad física y variables como la composición corporal, el

crecimiento y la maduración somática. En concreto, se prevé que una mayor adherencia a la dieta mediterránea y un mayor nivel de actividad física se relacionen con una menor masa grasa, una mayor masa muscular y patrones de maduración más favorables. Los resultados podrían contribuir a personalizar estrategias nutricionales y de entrenamiento para jóvenes deportistas, además de aportar datos longitudinales valiosos para futuras intervenciones en deportes de resistencia en población infantil y adolescente.

Financiación: Este proyecto no cuenta con financiación, pero se enmarca en el contrato de actividad investigadora entre la Universidad de Alicante y ADESAVI (REF: ADESAVI1-22X).
Palabras clave: Triatlón, maduración biológica, antropometría, composición corporal, dieta mediterránea, actividad física.
REGISTRO/PUBLICACIÓN DEL PROTOCOLO: ClinicalTrials.gov: NCT06534567 (agosto de 2024).

KEY MESSAGES

- Body composition, physical activity, and the Mediterranean diet influence the performance of young triathletes. Understanding and addressing these variables can help prevent fatigue and injuries, improving overall performance.
- Understanding the maturational status of triathletes aged 5 to 17 will allow for training adaptations to develop specific skills appropriate to their stage of maturity, optimizing their performance.
- Assessing and working on the nutritional habits of young triathletes enables training adjustments to optimize sports performance while reducing the risk of injuries.
- The data obtained will provide scientific evidence on the interaction between nutrition, exercise, and growth in the context of youth triathlon.

INTRODUCTION

Background

Triathlon is an individual, multidisciplinary endurance sport that combines swimming, cycling, and running. Since its Olympic debut in Sydney 2000, various race distances have emerged, such as the Sprint (750 m swim, 7 km cycle, 2 km run), Half (1.9 km swim, 90 km cycle, 21 km run), and Full (3.8 km swim, 180 km cycle, 42 km run), all of which impose high physiological demands on athletes[1–3]

In this context, achieving optimal performance in triathlon depends on multiple interrelated factors, including body composition, biological maturation, physical activity level, and nutritional status[4–6]. These determinants must be assessed together, as they play a critical role in performance and long-term athlete development.

Among these, body composition is particularly relevant. A higher percentage of body fat is associated with poorer performance in weight-bearing sports like triathlon, where success is often linked to low fat mass and greater relative muscle mass[7,8]. The ideal triathlete typically presents with low fat levels, moderate body weight, and a mesomorphic somatotype[7,8]. In young populations, BMI z-scores are often used to assess nutritional status, though they must be interpreted cautiously given interindividual variability in growth[9].

Biological maturation, which encompasses hormonal and anatomical changes over time, also affects athletic performance[10–12]. Classifying athletes by maturation stage (early, on-time, or late) provides valuable insight for tailoring training and nutritional strategies[12–14].

Nutrition is a key component of athletic development, particularly during childhood and adolescence[15,16]. The Mediterranean diet, rich in plant-based, minimally processed foods, has been associated with improved cardiovascular function, endurance, and recovery, making it an appropriate model for young athletes[15–18] However, recent shifts in dietary patterns among youth raise concerns about nutritional adequacy and long-term health risks[19].

Physical activity level is another well-established determinant of both health and performance in young populations[20]. Validated tools like the Spanish version of the Assessment of Physical Activity Levels Questionnaire (APALQ) enable its accurate monitoring in children and adolescents[21].

Rationale

Despite the growing interest in youth triathlons, longitudinal data are lacking on how diet and physical activity interact with biological maturation and body composition across development. Integrating these variables is essential to support evidence-based strategies that promote healthy growth and optimal performance in young athletes.

Objective

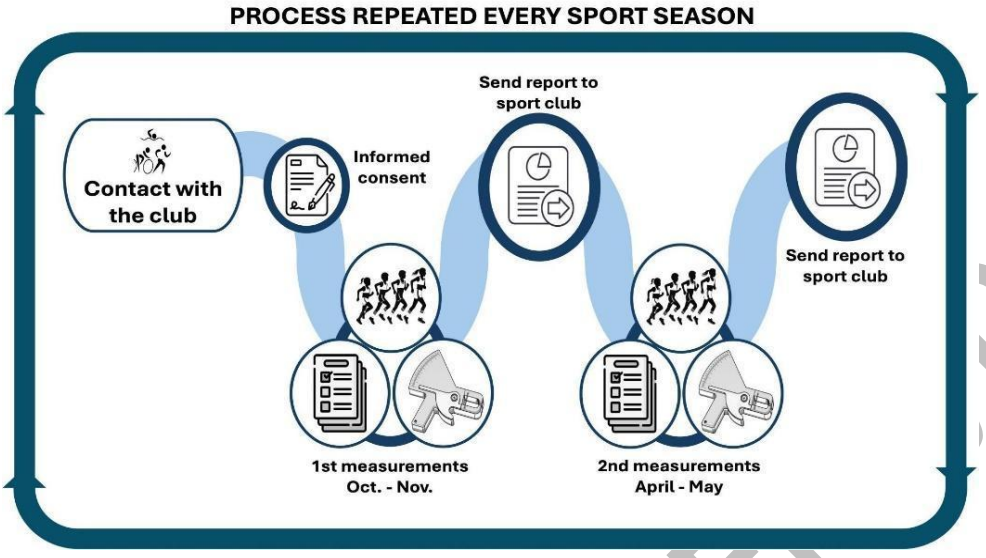
This observational study aims to examine whether adherence to the Mediterranean diet and physical activity level influence body composition, growth, and maturation in young triathletes. Participants will be assessed longitudinally over 6 years, using validated measures of diet, physical activity, and anthropometric outcomes.

METHODOLOGY

Study Design

This study follows a six-year prospective analytical observational dynamic cohort design and adheres to the STROBE-nut guidelines for nutritional epidemiology[22], an extension of the general STROBE recommendations for observational research. The protocol was registered on ClinicalTrials.gov (NCT06534567) and is being conducted under a collaboration agreement between the University of Alicante and the ADESAVI Triathlon School (REF: ADESAVI1-22X), with the objective of monitoring the anthropometric evolution, body composition, and biological development of young triathletes aged 5 to 17.

Figure 1 presents the overall study design.



Settings

The study is being conducted at the ADESAVI Triathlon School, located in San Vicente del Raspeig (Alicante, Spain), which offers structured training programs in swimming, cycling, and running for children and adolescents aged 5 to 17.

Data collection started in September 2022 and is expected to conclude in June 2028, resulting in a six-year follow-up period. Participants are being assessed twice a year—pre-season and post-season—through standardized anthropometric measurements, the KIDMED questionnaire to assess dietary habits[23], the APALQ questionnaire to estimate physical activity level[24], and the calculation of peak height velocity to determine somatic maturation[11] (Figures 1 and 2).

To analyze the evolution of these variables and their influence on growth and body composition, participants will be classified into three groups according to the specific objective of each analysis: Mediterranean diet adherence, physical activity level, or biological maturation status. Diet adherence will be categorized as low (0–3 points), intermediate (4–7), or high (8–12) based on the KIDMED score; physical activity level as sedentary (5–10 points), moderately active (11–16), or highly active (≥17) based on the APALQ; and maturation

as early, on-time, or late based on the timing of peak height velocity. This classification will allow the examination of longitudinal changes and group-by-time interactions in the variables of interest once follow-up is completed.

All assessments are conducted on-site at the school's facilities, in a familiar and controlled environment. To ensure participant comfort and data standardization, anthropometric measurements are taken in a dedicated room with stable conditions of temperature, lighting, and privacy. Data collection is integrated into the athletes' regular training schedule to minimize disruption and encourage participation.

Dietary and physical activity questionnaires are completed by legal guardians via an online form (Google Forms) sent in advance of each assessment round. Clear written instructions are provided to ensure proper understanding of the questions and to reduce potential reporting errors or bias.

This setting allows for consistent and high-quality data collection and supports participant retention throughout the follow-up period.

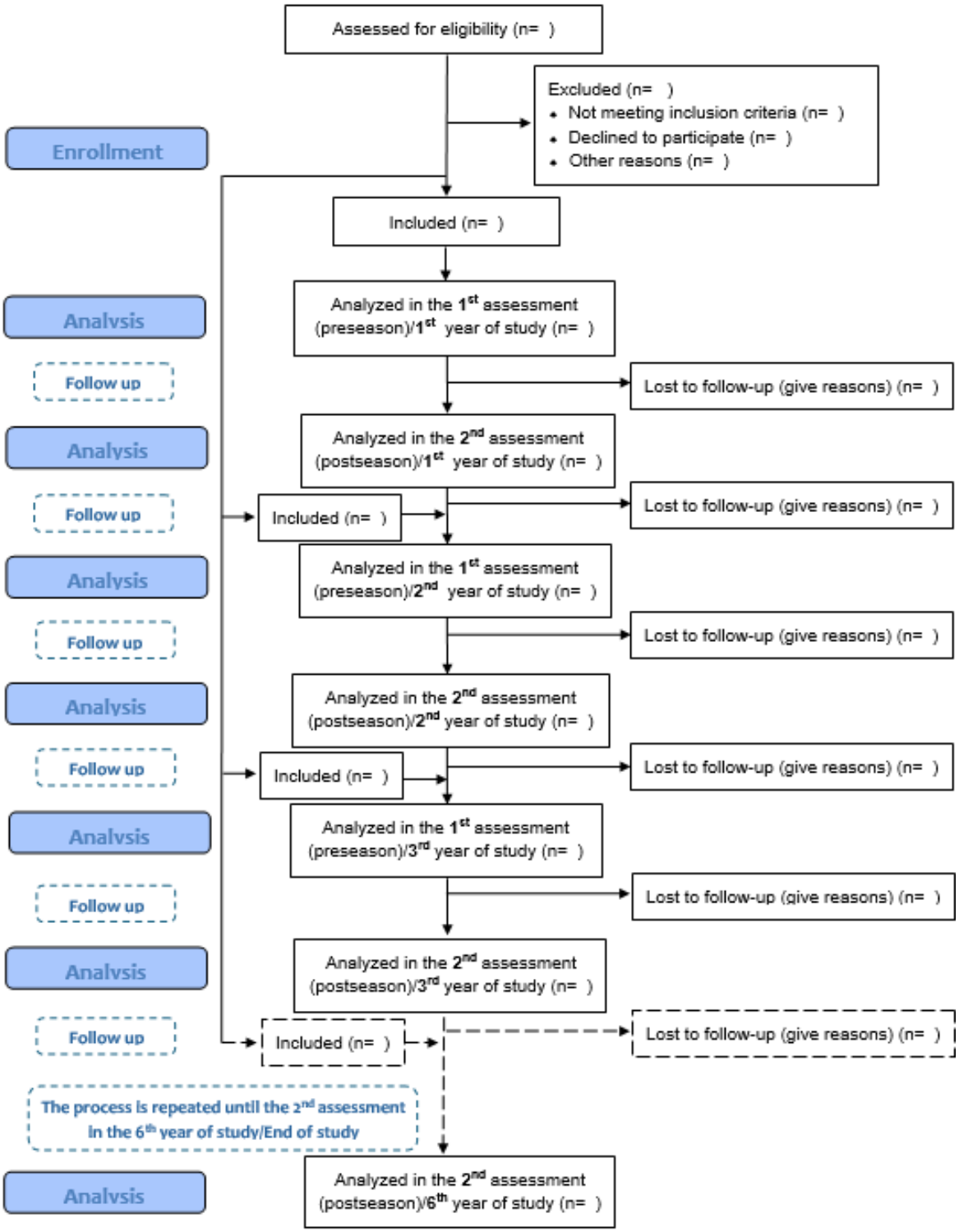


Figure 2. Participant flowchart. Dynamic cohort study

Study Population

Population Sample

The study sample will be selected through non-probabilistic convenience sampling at the ADESAVI Triathlon School, located in San Vicente del Raspeig (Alicante), where athletes aged 5 to 17 train in triathlon. The following inclusion and exclusion criteria will be applied for athlete eligibility:

Inclusion criteria:

- Enrollment in the ADESAVI Triathlon School.
- Age between 5 and 17 years.
- Parental acceptance of the informed consent form.

Exclusion criteria:

- Absence on the scheduled day(s) for anthropometric measurements.
- Reporting less than 80% attendance at physical activity sessions as recorded by the coach.

New participants who meet the eligibility criteria will be included each year, ensuring a dynamic sample throughout the study.

Procedure

Two annual assessments will be conducted for the triathletes participating in the study. These assessments will include anthropometric measurements for body composition analysis, dietary habit evaluation, physical activity level assessment, and somatic maturation analysis. These evaluations will take place consecutively over six years.

Before the study begins, ADESAVI triathlon club officials will be informed about the objectives, protocol, and procedures of the project.

Parents and/or legal guardians of the triathletes must sign the informed consent form and the patient information sheet before data collection. Additionally, the anthropometrist will inform each participant about the techniques to be performed and the steps to follow, ensuring that the information is clear and fully understood.

A few days before the anthropometric measurements, to assess adherence to the Mediterranean diet (KIDMED test) and physical activity level (questionnaire), participants and/or their parents or legal guardians will receive a Google Forms link for access and completion. Subsequently, anthropometric measurements will be taken during the pre-season (October/November) and post-season (April/May).

Once the measurements are completed, all data will be analyzed, and a report on anthropometric, nutritional, and somatic maturation assessments will be provided to the athletes and/or their legal guardians. This will help optimize the sports performance of the participants.

Several strategies will be implemented to minimize losses during follow-up. Evaluations will be scheduled at convenient times within the athletes' usual training environment to encourage participation, and flexible rescheduling will be offered in case of absence. Regular communication with families will be maintained throughout the study to strengthen engagement and address any concerns. Additionally, the estimated sample size has been increased by 10% to compensate for potential dropouts over time.

Study Variables

All information related to the study variables is available on the data collection sheet (Annex 1).

Assessment of Dietary Patterns

Adherence to the Mediterranean diet among triathletes will be assessed using the Mediterranean Diet Adherence Questionnaire for children and adolescents (KIDMED), a widely

validated instrument commonly used in children and adolescents[25]. The questionnaire consists of 16 questions with qualitative variables, with a final score ranging from 0 to 12 points. Among these questions, 12 have a positive nature, adding +1 point for each affirmative answer, while the remaining 4 have a negative nature, where an affirmative response deducts -1 point. Negative responses do not modify the score, regardless of whether the question is positive or negative[21]. Before completing the questionnaire, specialized professionals explained its content to family members to ensure proper understanding of the questions.

The KIDMED index classifies adherence to the Mediterranean Diet into three categories based on the obtained score: high (optimal) adherence is considered with a score between 8 and 12 points; intermediate adherence, which requires improvement in dietary habits, ranges between 4 and 7 points; and low adherence, reflecting a low-quality diet, corresponds to a score of 0 to 3 points[26].

To evaluate the internal consistency of the KIDMED questionnaire within this study population, Cronbach's alpha will be calculated using baseline responses. A value of $\alpha \geq 0.70$ will be considered indicative of acceptable internal reliability.

Assessment of Physical Activity Level

The physical activity level was assessed using the Assessment Physical Activity Levels Questionnaire (APALQ), validated for the Spanish population[24]. This questionnaire consists of five items with four or five response categories evaluating various aspects of physical activity: 1) Participation in extracurricular organized sports; 2) Unstructured physical activity; 3) Weekly frequency of intense physical activity (≥20 minutes); 4) Intensity of physical activity; and 5) Competitive participation. Each item is scored on a scale of 1 to 4 or 5 points, depending on the question. The total score classifies participants into three categories: sedentary (5-10 points), moderately active (11-16 points), and highly active (≥17 points).

Assessment of Body Composition

Anthropometric measurements will be carried out by certified anthropometrists accredited by the International Society for the Advancement of Kinanthropometry (ISAK) following standardized guidelines (ISO 7250-1:2017 and ISAK). The measurements taken will include body mass (kg), height (cm), sitting height (cm), arm span (cm), skinfold thickness of the triceps, thigh, and calf (cm), perimeters of the relaxed arm, contracted arm, thigh, calf, and waist (cm), and bicondylar femur width, bi-styloid wrist width, and anteroposterior abdominal diameter (cm). Using regression formulas, the four body components (muscle mass, fat mass, bone mass, and residual mass) will be calculated.

According to standard procedures, a mean technical error measurement (TEM) of less than 1% will be assumed for perimeters and diameters and 5% for skinfold thickness[24]. All measurements will be conducted under standardized conditions, in the same location, and at room temperature, following the ISAK protocol.

The anthropometric measurement equipment will be tested and calibrated before taking measurements. This equipment includes a scale (accuracy: 100 g), a wall stadiometer (accuracy: 1 mm), an AVANUTRI segmometer (accuracy: 1 mm), a CESCORF small-branch caliper (accuracy: 1 mm), a RealmetBCN large-branch caliper (accuracy: 1 mm), a HOLTAIN skinfold caliper (accuracy: 0.2 mm), and a CESCORF measuring tape (accuracy: 1 mm).

The following anthropometric indices will be calculated: BMI, fat mass index, waist-to-height ratio, cormic index (relative sitting height), skeletal index, relative lower limb length, and relative arm span. The BMI Z-score will also be calculated using the WHO AnthroPlus software from the World Health Organization (WHO, 2007). Based on the obtained values and WHO criteria, athletes will be classified into: undernutrition (ZS ≤ −2), underweight (ZS ≤ −1), normal weight (ZS = −1 to 1), overweight (ZS ≥ 1), and obesity (ZS ≥ 2)[9].

For body composition analysis, the kilograms and percentages of fat mass, muscle mass, and bone mass will be estimated using the equations of Slaughter[27], Poortmans[28], and Von Dobeln[29], respectively.

Assessment of Somatic Maturation

To determine the subjects' somatic maturation, a calculation based on various variables such as sex, age (date of birth), measurement date, height (cm), sitting height (cm), subischial leg length (cm), and body mass (kg) will be used[10]. These variables will estimate the age at which the peak height velocity (PHV) will occur, the chronological moment when an individual reaches their maximum growth velocity in height and body mass. To estimate this, the formula proposed by Mirwald et al. will be applied, as they demonstrated that PHV can be accurately predicted by considering height, sitting height, body mass, and age[30]. This non-invasive technique classifies athletes into eight levels, ranging from -4 to 3, where zero corresponds to the exact moment of reaching PHV[31].

The PHV calculation will allow athletes to be classified as early, normal, or late maturers based on their sex. Additionally, proximity to PHV will be predicted using a scale ranging from -4 to 4. On this scale, negative values indicate the years remaining until PHV is reached, zero represents the exact moment of PHV, and positive values reflect the years elapsed since PHV was surpassed[32].

Calculating these variables will also help estimate adult height and the approximate age at which it will be reached using mathematical formulas[10]. In the sports field, this information is highly valuable for designing optimal training programs and enhancing athletes' performance.

Bias

To minimize potential sources of bias, several methodological safeguards will be implemented. Selection bias will be addressed by including all athletes from the ADESAVI School who meet the inclusion criteria, with rolling enrolment of newly eligible participants each year. Measurement bias will be reduced through the application of standardized anthropometric protocols, calibrated equipment, and assessments conducted by ISAK-certified anthropometrists. Evaluations will consistently occur during the same seasonal periods to reduce temporal variability and participant reactivity.

Dietary and physical activity data will be collected using the KIDMED and APALQ questionnaires, completed by legal guardians via an online platform in a familiar, low-pressure setting. Detailed written instructions will be provided to minimize comprehension errors and social desirability bias. Given the self-reported nature of these instruments, potential recall bias will be mitigated by using concise and clearly worded items and encouraging accurate responses. No data imputation will be performed; only complete and internally consistent questionnaires will be included in the analysis.

Participant flow will be documented throughout the study, including numbers assessed for eligibility, enrolled, retained at follow-up, and included in final analyses. Reasons for non-participation (e.g., absence or withdrawal of consent) will be recorded when available. A flow diagram, following STROBE-nut guidelines, will illustrate recruitment, retention, and exclusion. The number of participants excluded due to missing or implausible questionnaire data will be explicitly reported to ensure transparency in data handling.

Sample Size

The sample size was calculated using G*Power software, based on a two-way mixed ANOVA design with three groups and twelve repeated measurements, corresponding to two evaluations per year over six years. The main interaction of interest is group × time. Assuming

a medium effect size (f = 0.25), a significance level of $\alpha = 0.05$, and a statistical power of 80% ($1 - \beta = 0.80$), the required sample size is approximately 54 participants (18 per group).

This calculation corresponds to the "Repeated measures, between–within interaction" model in G*Power. To compensate for potential dropouts during follow-up, the sample size will be increased by 10%, yielding a final estimated sample of 60 participants (20 per group), with efforts to maintain gender balance across groups.

Participant classification into three groups will be based on predefined categories of Mediterranean diet adherence, physical activity level, or somatic maturation status, depending on the specific analytical focus. This stratification will be applied in the mixed ANOVA group × time model to examine longitudinal effects.

Statistical Analysis

Statistical analyses will be performed using SPSS v23.0 for Windows (SPSS Inc., Chicago, IL, USA). The number of participants with missing data for each variable will be reported transparently, and no data imputation will be performed. Follow-up time will be summarized as both the average and total duration per participant, consistent with STROBE recommendations for cohort studies.

Quantitative variables will be presented as mean and standard deviation or as median and interquartile range (P25–P75), depending on the distribution of the data, which will be assessed using the Shapiro–Wilk test. Categorical variables will be expressed as absolute and relative frequencies. Statistical significance will be set at $p < 0.05$ (two-tailed).

The primary analysis will involve a two-way mixed ANOVA (group × time) to assess the effects of Mediterranean diet adherence and physical activity level on body composition and somatic maturation over six years. When the sphericity assumption is violated, robust corrections such as Greenhouse–Geisser or Huynh–Feldt will be applied. If normality assumptions are not met, non-parametric alternatives such as the Mann–Whitney U test or the Friedman test (for

repeated measures) will be used. Bonferroni correction will be applied for multiple comparisons.

To complement null hypothesis significance testing and enhance robustness, effect sizes will be calculated using Cohen's d or partial eta squared, depending on the statistical test applied. Correlations will be examined using Pearson's or Spearman's coefficients according to data distribution. For categorical variables, the Chi-square test will be used, along with post hoc residual analysis and Cramér's V to assess effect strength.

Subgroup and interaction analyses will be conducted to explore differential effects based on sex, biological maturation, or other relevant factors. Additionally, sensitivity analyses will be performed by excluding statistical outliers to verify the stability of the findings.

Ethical Considerations

The project has been approved by the Ethics Committee of the University of Alicante (File UA-2021-11-17; verification code: XJ+CQBRTRPVUA4C6ZWDR) and complies with the ethical standards outlined in the World Medical Association codes and the Declaration of Helsinki.

Informed consent will be obtained from all participants after providing them with a detailed explanation of the study objectives, procedures, potential benefits, and risks. Additionally, participants will be informed about their right to withdraw at any time without suffering negative consequences.

Confidentiality and privacy of participants will be ensured through strict data protection measures, in compliance with the General Data Protection Regulation (GDPR) and applicable national legislation. To protect participant identity, all personal information and collected data will be anonymized before analysis. This data will be securely stored, with restricted access exclusively for authorized research personnel, and will be retained only for the

duration necessary for study purposes. After this period, any identifiable data will be deleted following the data protection policies of the University of Alicante and applicable regulations.

Expected Results

Based on literature and study design, we expect to observe significant associations between adherence to the Mediterranean diet, physical activity levels, and the body composition, growth, and somatic maturation of youth triathletes. Specifically, higher adherence to the Mediterranean diet and greater physical activity levels are anticipated to correlate with more favorable body composition parameters (lower fat mass and higher muscle mass) and with patterns of growth and maturation consistent with optimal athletic development. These findings are expected to differ by sex and age group and may vary across different stages of biological maturation.

The longitudinal design will allow us to analyze trends over time and better understand how nutritional and physical activity habits influence athletic development during critical stages of growth. The results may contribute to improved training and nutritional strategies for youth athletes, supporting their health, performance, and long-term development.

DISCUSSION

Key Results

This study addresses a gap in longitudinal evidence regarding how body composition, physical activity, and adherence to the Mediterranean diet interact in youth triathletes. Beyond identifying cross-sectional associations, the cohort design will allow us to explore change trajectories across different stages of growth and biological maturation. The added value of this research lies in its capacity to integrate multiple dimensions of child and adolescent athletic development, providing information that can inform decision-making in training, prevention, and health promotion contexts.

Limitations

Although the study began in 2022, this protocol is published after the completion of the initial recruitment and methodological consolidation phase. We consider its dissemination at this stage to be timely and valuable, as follow-up will continue until 2028. This publication strengthens methodological transparency, enables the sharing of instruments and procedures used, and aligns with international recommendations for best practices in observational studies, such as those outlined in the STROBE-nut extension. Furthermore, it will support the replicability of the study design and facilitate future comparisons with other youth athletic populations.

Among the inherent limitations of study design is the risk of participant dropout over time, particularly in a child and adolescent cohort exposed to multiple personal, academic, and athletic transitions. To mitigate this, retention strategies and ongoing contact with families have been planned. Additionally, the use of self-administered questionnaires—although validated and adapted to the target population—may introduce recall or social desirability bias. These potential sources of bias will be addressed through standardized instructions, supervised completion, and appropriate statistical analyses.

Interpretation

The results should be interpreted within the broader context of holistic development in young athletes, taking into account the complexity of growth and maturation processes. Adherence to the Mediterranean diet, in combination with adequate levels of physical activity, may have synergistic effects on body composition, athletic performance, and overall well-being. These interactions—modulated by factors such as sex, chronological age, and biological maturation stage—highlight the relevance of the longitudinal approach adopted. Moreover, the study is expected to provide applicable evidence to guide the design of integrated training and nutritional education strategies tailored to the developmental needs of youth triathletes.

Generalizability

Although the study is conducted among triathletes from a single sports school in southeastern Spain, its findings may be extrapolated to other youth sports settings with similar characteristics, particularly those focused on endurance disciplines. The use of validated instruments, the structured follow-up, and stratified analyses by age and maturation stage enhance its applicability to comparable contexts. However, caution should be exercised when generalizing the results to non-athletic populations or to settings with different sociocultural profiles, as factors such as family environment, socioeconomic status, access to healthy food, and training structure may influence the observed outcomes.

ACKNOWLEDGMENTS

We thank Escuela de Triatlón Adesavi for their collaboration and willingness to support this study.

AUTHORSHIP CONTRIBUTION

Conceptualization, J.M.M.-S., E.A., M.A.H.-L. and D.R.-G.; methodology, J.M.M.-S., E.A., E.M.-O., A.C. and D.R.-G.; visualization, J.M.M.-S., M.A.H.-L., E.A. and D.R.-G.; writing—original draft preparation, E.M.-O., E.A., D.R.-G., A.C. and J.M.M.-S.; writing—review and editing, E.M.-O., E.A., D.R.-G., A.C., M.A.H.-L. and J.M.M.-S. All authors critically reviewed this and previous versions of the manuscript.

FUNDING

The authors declare that there was no funding for this study, which falls within the research activity contract between the University of Alicante and ADESAVI (REF: ADESAVI1-22X).

CONFLICT OF INTEREST

The authors declare that there are **no conflicts of interest** in writing this manuscript.

DATA AVAILABILITY

The data collection sheet is available in Annex 1.

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