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Editorial

The ALPHA health-related physical fitness test battery for children and adolescents

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In this issue of *Nutricion Hospitalaria*, Ruiz and colleagues[1] present the new health-related fitness test battery for youth based upon the work developed by the ALPHA (Assessing Levels of Physical Activity) study. The ALPHA was a study funded by the European Union (http://sites.google.com/site/alphaprojectphysicalactivity/Home) aimed "to provide a set of instruments for assessing levels of physical activity, its underlying factors (e.g. build environment, transport, and workplace), as well as, fitness in a comparable way within the European Union". The work presented in this issue by Ruiz and colleagues relates to the working package 6 of the ALPHA project —Assessing Health-related Physical Fitness— aimed to "provide a set of valid, reliable, feasible and safe field-based fitness tests for assessment of health-related physical fitness in children and adolescents to be use in public health monitoring in a comparable way within the European Union".

At a population level, the regular screening of physical activity and physical fitness (including body composition) levels should be considered a public health priority, as the lack of physical activity and/or physical fitness are implicated in the aetiology and prevalence of several non-communicable diseases, such as cardiovascular disease, diabetes and cancer and their risk factors (high blood pressure, raised blood sugar and overweight), affecting the general health population worldwide.[2] Moreover, from a public health preventive point of view, schools should play a central role in the provision and promotion of physical activity and physical fitness in young people, along with other health behaviours, as children and adolescents spend a large amount of time in the school environment.[3]

While objective measures of fitness in the laboratory are very accurate and precise, they are also more expensive, require sophisticated equipment and qualified technicians and are time-consuming; therefore, their use in epidemiological studies and/or in the school setting are limited. Until now, several field-based fitness test batteries were available to measure physical fitness in youth; however, most of them were developed for children and adolescents from the USA. Before the ALPHA study, he only set field-based fitness tests developed for European children and adolescents was the Eurofit battery.

Taking in consideration the aims of the ALPHA study, the work performed by Ruiz and colleagues focused their attention on field-based test batteries and followed an excellent methodology by starting their work by reviewing the evidence on (i) the association between physical fitness and health in young people mainly focused on findings from cross-sectional studies;[4] (ii) the predictive validity of health-related fitness;[5] (iii) the criterion validity of field-based fitness tests;[6] and (iv) the reliability of field-based fitness tests in young people.[7] In the second phase of their research, the authors' team also carried out 11 methodological studies to determine criterion validity, and the reliability of several field-based fitness tests for young people. The third phase of their work included a study in the school setting to examine the reliability, feasibility and safety of the evidence-based selected tests. After these research steps the team lead by Ruiz concluded conclude that "cardiorespiratory fitness, muscular strength and body composition could be considered as markers of health already at childhood and adolescence, as well as health indicators of future cardiovascular health. The 20m Shuttle Run Test can be considered both valid and reliable to assess cardiorespiratory fitness; the handgrip strength and the standing broad jump tests are valid and reliable to assess musculoskeletal fitness; and body mass index, skinfold thickness and waist circumference are valid and reliable measures to estimate body fat".[8] The authors also refer that they did not find evidence for other tests assessing motor fitness or flexibility due to the lack of studies. Even though, the authors decided to included in the ALPHA health-related fitness test battery the 4 x 10 m motor fitness test, once this test has been associated with bone mass, however there is no evidence to con-

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clude about its predictive and criterion validity. The authors suggest that these set of tests are feasible and safe to be used in the school setting and at population level.[8]

The excellent work performed by Ruiz and colleagues within the ALPHA study has pushed forward the scientific knowledge by improving our understanding about the health-related implications of a poor fitness in young people; and about the reliability, validity, feasibility and safety of several field-based physical fitness tests for children and adolescents. Their contribution for the scientific field of health-related physical fitness in young people was of great value and should be highlighted. With the work presented in this issue[1] the authors have fully addressed their aims by providing "a set of valid, reliable, feasible a safe field-based fitness tests for the assessment of health-related physical fitness in children and adolescents to be used in public health monitoring in a comparable way within the European Union".

References

1. Ruiz JR, España-Romero V, Castro-Piñero J, Artero EG, Ortega FB, Cuenca-García M, Jimenez-Pavón D, Chillón P, Girela-Rejón MJ, Mora J, Gutiérrez A, Suni J, Sjöström M, Castillo MJ. Batería ALPHA-Fitness: Test de campo para la evaluación de la condición física relacionada con la salud en niños y adolescentes. *Nutr Hosp* 2011; 26:
2. WHO. Global Recommendations on Physical Activity for Health. WHO publications. 2010. Geneva, Switzerland.
3. Pate RR, Davis MG, Robinson TN, Stone EJ, McKenzie TL, Young JC. Promoting physical activity in children and youth: A leadership role for schools: A scientific statement from the american heart association council on nutrition, physical activity, and metabolism (physical activity committee) in collaboration with the councils on cardiovascular disease in the young and cardiovascular nursing. *Circulation* 2006; 114: 1214-1224.
4. Ortega FB, Ruiz JR, Castillo MJ, Sjostrom M. Physical fitness in childhood and adolescence: A powerful marker of health. *Int J Obes (Lond)* 2008; 32: 1-11.
5. Ruiz JR, Castro-Pinero J, Artero EG, Ortega FB, Sjostrom M, Suni J, Castillo MJ. Predictive validity of health-related fitness in youth: A systematic review. *Br J Sports Med* 2009; 43: 909-923.
6. Castro-Pinero J, Artero EG, Espana-Romero V, Ortega FB, Sjostrom M, Suni J, Ruiz JR. Criterion-related validity of field-based fitness tests in youth: A systematic review. *Br J Sports Med* 2010; 44: 934-943.
7. Artero EG, Espana-Romero V, Castro-Pinero J, Ortega FB, Suni J, Castillo-Garzon MJ, Ruiz JR. Reliability of field-based fitness tests in youth. *Int J Sports Med* 2011; 32: 159-169.
8. Ruiz JR, Castro-Pinero J, Espana-Romero V, Artero EG, Ortega FB, Cuenca MM, Jimenez-Pavon D, Chillon P, Girela-Rejon MJ, Mora J, Gutierrez A, Suni J, Sjostrom M, Castillo MJ. Field-based fitness assessment in young people: The alpha health-related fitness test battery for children and adolescents. *Br J Sports Med* 2011; 45: 518-524.