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BOOK OF ABSTRACTS

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gal), 3: University of Trás-os-Montes and Alto Douro (Vila Real, Portugal). Introduction Questionnaires are tools to obtain reliable and useful information in nutritional and physical activity (PA) studies of adolescents around the world. The Quantification de l´Activite Phisique en Altitude Chez le Enfants (QAPACE) developed by Barbosa et al. (2007) and the HBSC – Health Behavior in School-Aged Children survey (2001-02) are valid tools to assess PA in population studies. This study aimed to determine the test-retest reliability of a new questionnaire entitled "Questionnaire to Assess Physical Activity and Sedentarism, QAPAS" modified and improved from the QAPACE and the HBSC to evaluate PA patterns of Portuguese adolescents. Methods The developed questionnaire comprised 20 questions and was self-administered. Reliability was assessed by test-retesting 22 males and 19 females, randomly selected (11.10±0.70 years), after an eight-day interval. These 41 adolescents represent 2.9% of the population (1403 students from 7 public schools) under study. Pearson correlation and Cohen's kappa test were performed using SPSS software v. 20.0. Results Pearson's correlation between answers of the two periods were statistically significant for all the 58 items and the r-values were above 0.600 ($p<0.01$ and $p<0.001$). A great fraction of these correlations ranged from 0.900 to 1.000, thus showing that questions were appropriate. Moreover, Cohen's kappa test also demonstrated an high concordance level between the answers of the adolescents, with 51 itens (from 58 items) above 0.600. Discussion The questionnaire developed in the study complies with the requirements of reproducibility. In fact, the internal consistency of answers evaluated during the test-retest study proved to be good. Moreover, inter-answer reliability determined through Cohen's kappa test was above 0.700 in 65.5% of questionnaire items. Thus, QAPAS can be applied to the whole adolescents' population. References Barbosa N, Sanchez C, Vera J, Perez W, Thalabard J, Rieu M (2007). Journal of Sports Science and Medicine, 6, 505-518. HBSC, US Department of Health and Human Services. Health Behavior in School-Aged Children, 2001-2002 doi:10.3886/ICPSR04372.v2. Funding: CERNAS Research Unit is supported by National Funds through FCT - Foundation for Science and Technology under the project "PEst-OE/AGR/UI0681/2011".

MATCH RUNNING PERFORMANCE IN JAPANESE OLDER SOCCER PLAYER

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Introduction Time-motion analysis of soccer games, many researchers have been analyzing quantity of the distance covered in soccer players (Bangsbo et al. 1991). However, the previous data used for their analysis were collected only from players in top-level soccer club or national teams. Actually, there was no studies used the data from older soccer players. Therefore, the purpose of this study was to examine running performance in Japanese older soccer players. Methods This study was carried out with eight games for Over-70 years old soccer league. Twenty-one amateur Japanese soccer players (age: 71.9+/-1.5 years, height: 166.7+/-4.1 cm, body mass: 64.9+/-7.5 kg, BMI: 23.3+/-2.5) participated in this study, including defenders (n=7), midfielders (n=7), and forwards (n=7). All players were filmed during the entire match (40 min.). The digital video cameras (HDR-XR550V, Sony, Japan) were positioned at the side of the pitch, at the level of midfield line, at a height of about 30m and at a distance of about 30m from a touchline. The digital movies were later replayed on a monitor. Then, total distance and running speed were analyzed using Track Performance software (Sports Code, Australia). This software system was applied most effectively with the use of a drawing tablet (PTK-1240, Wacom, Japan) connected to laptop computer. The locomotion categories were used for standing (0~2km/h), walking (2~7km/h), jogging (7~9km/h), low-speed (LS) running (9~13km/h), moderate-speed (MS) running (13~16km/h), high-speed (HS) running (16~22km/h), sprinting (>22km/h). These locomotion categories were chosen in accordance with Randers et al. (2010). Results & Discussion The mean total distance covered in 40 min. was 3502.5 +/- 504 m and ranged from 2468m to 4566m. The average distance covered (absolute & relative data) consisted of standing (118.0m, 18.0%), walking (1653.0m, 57.3%), jogging (537.0m, 10.1%), LS running (729.5m, 10.0%), MS running (332.0m, 3.5%), HS running (127.5m, 1.1%), and sprinting (0m, 0%). There was significant difference between the first (1848.1 +/- 276.0 m) and the second (1654.3 +/- 240.5 m) half of the total distance covered (absolute data)($P<0.05$). In addition, relative data in the second half regarding standing was significantly increased compared to the first half ($P<0.05$). On the other hand, jogging, LS running, MS running were significantly decreased compared to the first half ($P<0.05$). Therefore, in Japanese older soccer players, it was suggested that fatigue accumulated during the games affected faster running speed especially in the second half. References 1. Bangsbo, J., et al., Activity profile of competition soccer. Can. J. Sport Sci., 16: 110-116, 1991 2. Randers, M. B., et al., Application of four different football match analysis systems: a comparative study. J. Sports Sci. 28: 171-182, 2010

A "START TO SWIM" PROGRAM FOR HEALTH-ENHANCEMENT PURPOSE: A DELPHI STUDY

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Introduction Popularity of "start to run" or "start to cycle" programs increases with the evidence that regular physical activity contributes to the prevention and management of a wide range of chronic diseases (Rippe and Angelopoulos, 2010). Nevertheless, start to swim programs could lead to even more health-enhancing outcomes (Chase et al., 2008). The aim of this study was to obtain a "start to swim" model program by means of a two-round Delphi study. Methods In the first round, 10 key-experts in sport physiology (n=4) or in swimming coaching (n=6) outlined possible relevant components of the "start to swim" program in a semi-structured interview. Initial exclusion criterion, program set-up, program key principles, program progression and final goals were interrogated. Then, a facilitator provided an anonymous summary of the experts' suggestions from the previous round as well as the arguments they provided for their choice. In the second round, experts were asked to comment on this summary before providing a final form to this program. Results After two rounds, the experts agreed on a collective and coached intervention with 2 sessions per week and a progressive replacing of the coach by a group leader during a 4 months program. People without medical contraindication and able to swim 25 meters could take part to this program. The final goal-setting is personal and based on each individual progression and motivation. Sessions are endurance-oriented and divided between traditional swimming sessions and diversified aquatic activities. In order to support this active lifestyle in a long-term basis, referring to swimming clubs or other aquatic activities associations are performed by the coach at the end of the program. Discussion The start to swim program take into consideration behavioural and social aspects necessary for a successful adoption and maintenance of physical activity (Khan et al., 2002). Consistent with previous findings, a group-based program (Cox et al., 2008) with individually adapted-goals (Marcus and Forsyth, 2003) could lead to a long-term adherence to exercise. Future studies should include systematic evaluation of the "start to swim" program before translation into the community. References Chase NL, Xuemei S., Blair SN (2008). Int J Aquat Res Educ, 2(3), 213-223. Cox KL, Burke V, Beilin LJ, Derbyshire J, Grove R, Blanksby BA, Puddey IB (2008). Prev Med, 46(6), 511–7. Kahn EB, Ramsey LT, Brownson, RC, Heath GW, Howze EH, Powell, KE, Stone, EJ, Rajab, MW, Corso P (2002). Am J Prev Med, 22(4), 73-107. Marcus BH, Forsyth LH (2003). Motivating people to be physically active. Champaign, IL: Human Kinetics. Rippe JM, Angelopoulos TJ (2010). Am J Lifestyle Med, 4, 205-208.