between physical and tactical variables of under-17 soccer players who competed in the 2019 FIFA Soccer World Cup.
Objectives: The objective of the present study was to analyze and associate the variables of physical performance (total distance covered) and technical performance (ball possession, number of passes, shots on goal, compaction with the ball and compaction without the ball) of male soccer players during the FIFA U-17 World Cup.
Methods: Were analyzed 24 national teams participating in the under-17 football world cup, held in 2019. We selected from the technical report, accessed from the official website of the competition (www.fifa.com). Pearson's correlation test (r) was used to describe the association between variables. The correlation coefficient was classified as follows: 0.0 – 0.1 (trivial), >0.1 – 0.3 (minor), >0.3 – 0.5 (moderate), >0.5 – 0.7 (large), >0.7 – 0.9 (very large), and >0.9 – 1.0 (almost perfect). All procedures were performed in IBM SPSS (IBM SPSS Statistics – Version 20.0).
Results: The total average distance covered during the competition was between 106 and 121 km per match. The average ball possession for each team was 36 – 61% per game. There were between 315 and 588 passes and 6 – 24 shots on goal per match. The average compaction per match with ball possession was between 708 and 1081 meters^2, and without ball possession was 500 – 744 meters^2. Correlations classified as 'very large' were observed between possession of the ball and passes (r= 0.814), 'great' between total distance and compaction without the ball (r= -0.599) and passes and compaction without the ball (r= -0.555), 'small' between total distance and possession of the ball (r= 0.219), total distance and compaction with the ball (r= -0.103) and passes and compaction with the ball (r= -0.254) and 'trivial' between total distance and shots a goal (r = -0.075) and possession and compaction without the ball (r = -0.001).
Conclusion: It was observed that the exchange of passes is an important foundation for maintaining possession of the ball, exploring spaces on the field of play and reducing physical demand.
Implications: Coaches and trainers can develop the physical capabilities of players to serve as a basis for executing technical and tactical demands. Thus, based on our results, we suggest that technicians and trainers search for means and methods of physical and tactical training that are more efficient for the age group in question. In this way, players will be able to fulfill their duties during the game, pass with greater possibilities of reaching the goal and finish on goal when they are better positioned. The choice of this strategy will make it possible to improve the performance of the team/players during matches during the competition.
Keywords: Sports performance, Demands of the game, Youth sports

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PELVIC FLOOR MUSCLES CONTRACTION MAY STIMULATE THE CARDIAC AUTONOMIC CONTROL OF HEART RATE IN POSTMENOPAUSAL WOMEN: A CROSS-SECTIONAL STUDY

Jordana Barbosa-Silva[1], Raphael Martins de Abreu[2], Audrey Borghi-Silva[3], Alberto Porta[4], Aparecida Maria Catai[3], Patricia Driusso[1]

[1] *Physical Therapy Department, Women's Health Research Laboratory, Federal University of São Carlos (UFSCar), São Carlos, São Paulo, Brazil*
[2] *Department of Physiotherapy, LUNEX University, International University of Health, Exercise & Sports S.A., Differdange, Luxemburgo; LUNEX ASBL Luxembourg Health & Sport Sciences Research Institute, Differdange, Luxemburgo*
[3] *Physical Therapy Department, Cardiopulmonary Physical Therapy Laboratory, Federal University of São Carlos (UFSCar), São Carlos, São Paulo, Brazil*
[4] *Department of Biomedical Sciences for Health, University of Milan, Milão, Itália; Department of Cardiothoracic, Vascular Anesthesia and Intensive Care, IRCCS Policlinico San Donato, San Donato Milanese, Itália*

Background: Pelvic floor muscles (PFM) contraction is often assessed during the quantification of PFM function, and it is the principal mechanism of the pelvic floor muscles training, as well as the first line of treatment of several PFM dysfunctions. However, comparisons about the effects of these muscle contractions on the cardiac autonomic modulation (CAM) in pre- and postmenopausal women are still not known.
Objective: To compare the effects of a PFM contractions protocol on heart rate variability (HRV) in rest and recovery, in apparently healthy pre- and postmenopausal women.
Methods: This is a cross-sectional study it was conducted at the Women's Health Research Laboratory, Federal University of São Carlos, Brazil. We recruited 37 apparently healthy women, aged between 20-70 years old, with a body mass index lower than 30 kg/m^2 and without history of pelvic surgery. Participants were divided into pre-menopausal group (PG=23, 24±3 years) and postmenopausal group (PMG=14, 57±7 years). The PFM protocol consisted of 8 min at rest in supine position, 10 sustained PFM contractions of 5 seconds each and 8 min recovery. The heart period (HP) was recorded during the protocol through a cardiac monitor (Polar® RS800CX Kempele, Finland). Resting and recovery HP variabilities (256 consecutive points of the tacogram) were assessed by representative time-domain indices (RMSSD and SDNN) and frequency domain indexes (LF and HF abs and normalized units).
Results: PMG showed reduced time domain indices compared with PG ($P<0.05$). Frequency-domain indexes showed that PFM contractions can affect the cardiac autonomic control, in recovery condition, by increasing sympathetic cardiac modulation (LFabs) and reducing cardiac vagal modulation (HFabs), $p<0.05$, in PG only.
Conclusions: Postmenopause is associated with a marked reduction in heart rate variability indices. The PFM contraction can affect cardiac autonomic control physiologically, to meet the metabolic demands during exercise; however, reflecting on the increasing sympathetic cardiac autonomic and reducing vagal modulation in the recovery, mainly in PG.
Implications: Long-term safety, as well as interventions based on PFM to improve CAM in postmenopausal women, should be investigated in the future.
Keywords: Heart rate variability, Pelvic floor muscles exercise, Women

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