OHdG) determined with high performance liquid chromatography.

Results: A two-way analysis of variances represented main effects for session ($p<0.05$, 0 and 12 months), but not for day (Days 1, 3 and 5) or interaction regarding the levels of urinary 8-OHdG (ng/ml creatinine, values computed as the average of three successive days, Day 1: 2.1±0.8, day 3: 2.8±0.9, Day 5: 3.1±1.1 for 0 month, Day 1: 4.1±1.4, day 3: 3.8±1.7, Day 5: 3.6±1.3 for 12 months, respectively).

Discussion: Previous studies have found that high-intensity exercise training increases oxidative stress. On the other hand, moderate-intensity exercise training has been reported to increase antioxidant capacity as a result of training adaptation. In this study, increased whole-body DNA oxidation was observed, but it remains to be elucidated whether it is derived from the amount of training (dependent on intensity and duration), induced from hydration status in a warm-humid environment, or derived from hormonal fluctuation (e.g., estrogen). In conclusion, the results of this study suggest the possibility of increased responses in whole-body DNA oxidation to the long-term volleyball training in adolescent female athletes, which appears to be a transient increase.

Impact and application to the field: When adolescent athletes train for extended periods of time in a warm-humid indoor environment such as a gymnasium without air conditioning, measuring biomarkers of oxidative stress can provide useful information for athletes to manage their physical condition.

We have no conflict of interest of relevance to the submission of this abstract.

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(P100021)

Effectiveness of hydration education to improve hydration status during summer seasons in adolescent female indoor-sport athletes

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Introduction: When athletes conduct sport practices and competitions for long periods of time in a warm-humid indoor environment without air conditioning or other climate control equipment, care must be taken to prevent heat stroke. In this regard, it is necessary for coaches and other instructors to provide athletes with hydration education (optimal hydration strategy) so that each athlete understands and puts it into practice However, it is still unclear how much hydration education for adolescent athletes is effective in maintaining and improving their performance levels. The objective of this study was to assess the effects of an educational intervention on hydration status during summer seasons in adolescent female indoor-sport athletes.

Methods: Ten eumenorrhoeic female volleyball athletes (as baseline values; age: 15.2±0.4 years, height: 159.9±5.5 cm, body weight: 55.2±6.1 kg, BMI: 21.5±1.6 kg/m^2, body fat: 22.4±4.5 % [mean±SD]) participated in this study. In addition to physical training, volleyball training, including ball handling, specialized drills, and game-style practical skills, was conducted in the school gym for approximately 2 to 2.5 hours per day, six days a week. All participants were educated about hydration strategies for approximately 1 hour at 0 (baseline), 10, and 22 months, respectively. Each individual consumed ad libitum commercially available carbohydrate-electrolyte solution (Pocari Sweat®, Otsuka Pharmaceutical Co., Ltd.; energy:104.6 kJ/100 mL, carbohydrate: 6.2%, Na^+:21 mEq/L, K^+:5 mEq/L, Cl^-:17 mEq/L) over the daily practice. After heat acclimatization has naturally occurred in all participants, urine samples were collected before and after volleyball club activities on three successive days (Days 1, 3, and 5) at 0, 10, and 22 months (three consecutive summer seasons), respectively, for the later analysis of the urine specific gravity in order to determine hydration status determined by a refractometer. Changes in body mass and fluid intake were also recorded.

Results: A two-way analysis of variances showed main effects for time ($p<0.05$, before and after), but not for session (0, 10 and 22 months) or interaction concerning the levels of urine specific gravity (values calculated as the average of three successive days, before: 1.027±0.004; after: 1.030±0.003 for 0 month, before: 1.028±0.004, after: 1.030±0.004 for 10 months, before: 1.025±0.006, after: 1.029 ±0.004 g/mL for 22 months) following each hydration educational session. **Discussion:** Prior research has argued whether education about hydration strategy during practice and games improves hydration status, but in practice, some cases have been improved by such education and others have not. Possible reasons for those differences include the divergences in hydration methods using cups or plastic bottles and in indoor environments not equipped with air conditioning. In conclusion, the results of our study imply that several sessions of hydration education may not be sufficient to lead to the dramatic improvement of hydration status.

Impact and application to the field: Hydration education needs to be continued until each athlete understands and is able to put into practice what they have learned.

We have no conflict of interest of relevance to the submission of this abstract.

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Community participation in the design and development of a physical activity and psychosocial program for Indigenous girls: Processes, experiences and lessons learnt

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Introduction: Recent social changes in political and academic thinking have improved the way Indigenous health research is conducted. A wealth of resources containing theoretical and practical guidance are now available to support academics and health practitioners when engaging Indigenous peoples in research. Despite this evolution of practice, Indigenous health disparities still pervade, indicating something is missing in the Indigenous health research toolbox. One identified gap is a lack of documented experiences detailing how broad ethical guidelines and principles may be practically applied. This presentation will 1) describe the research processes involved in co-designing a physical activity and psychosocial health program for young Indigenous girls and 2) highlight key learnings of the collaborative research journey from an intercultural lens.

Methods: Information and guidance regarding appropriate research engagement with Indigenous peoples were gathered over the project's first year. Data gathering activities included: a review of relevant literature, discussions at team meetings, a consultative workshop with Indigenous community members, and briefings from an Aboriginal Reference Committee. This information was then aligned with the Criteria for Strengthening Reporting of Health Research involving Indigenous Peoples (CONSIDER) statement and used to document participatory research activities undertaken with