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Activity profile, perceived exertion and flow from 4v4 street soccer for homeless women

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Introduction:
Exercise intensity during street soccer for homeless men is high (Randers et al., 2012) and 12 weeks of street soccer training led to improved physical fitness and cardiovascular health (Randers et al., 2012) and resulted in a substantial anabolic response in bone metabolism and improved postural balance (Helge et al., 2014). Street soccer for homeless women has not been investigated, thus, the purpose of this study is to describe the activity profile of homeless women playing street soccer.

Methods
Fifteen homeless women (30.3±5.0 yrs (±SD), 1.65±0.08 m, 65.1±11.0 kg, 5±4 yrs of prior soccer experience) played street soccer (3v3+goalkeepers) at Women’s Homeless World Cup. Games were 2x7 min interspersed with 1 min halftime break. The pitch was 22x16 m surrounded with 1.1 m high boards and goal size was 4.0x1.3m. During games heart rate (HR) and activity profile were measured using Polar team 2 and Catapult Minimaxx S4 units. After each game rating of perceived exertion (RPE) for lower limbs and total body was individually rated on a visual analogue scale (0-10), and flow and worry were measured on the 13-item Flow Kurz Skala. Only data on field players are analyzed.

Results & Discussion
The mean playing time was 11.1±2.6 min. The mean HR was 174±7 bpm and peak HR during matches reached 188±10 bpm. Time spent in HR zones as percentage of total playing time was: <120 bpm: 1±2%, 120-160: 23±22%, 160-180 bpm: 45±21%, HR >180 bpm: 31±28%. The total distance covered was 757±214m equal to 69±9m per min. 82±14% (54±2m/min) of this distance was covered with low-speed running (<9 km/h), 15±6% (11±6m/min) with moderate-speed running (9-13 km/h) and 3±3% (2±3m/min) with high-speed running (>13 km/h). 44±5% of the total distance covered was covered with forward running, 44±3% covered with sideways running and 12±3% with backward running. Player Load was 103±31 AU equal to 9.3±1.7 AU/min. The number of high, moderate and low accelerations were 1.7±0.8, 3.4±0.7 and 10.2±2.0, respectively. Mean RPE was 4.8±2.5, total flow score was 5.5±0.8 and total “worry” score was 4.6±1.3.

Conclusion
Our results demonstrate that street soccer for homeless women led to high mean heart rates. The high heart rate response may be due to a significant number of specific movements and accelerations/decelerations.

References

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