



# BODY COMPOSITION AND DEHYDRATION IN KENDO ADOLESCENT ATHLETES

Renata Furlan Viebig; Kelly Mayumi Isizuka

Biological Sciences and Health Center. São Paulo, Brasil.

**Background and aims:** Kendo or Budo is a Japanese martial art, which emerged as a war fighting technique and became a sport, in which are performed trainings with the use of bamboo swords and a heavy garment, a kind of Kimono. The present study aimed to assess the body composition and the hydration status of Kendo fighters, after a regular training session, in Sao Paulo, Brazil.

**Methods:** Cross-sectional study, with Kendo athletes, aged between 10 and 15 years old. The athlete's Body Mass Index (BMI) was estimated and individual body fat percentage was evaluated, by bioimpedance method. The presence of dehydration was verified by the variation between initial weight and final weight after a 120 minutes training session, at an average temperature of 19.4°C.

**Results:** Fourteen adolescents were evaluated, with a mean age of 11.64 years old, being 8 male athletes. About 43% of adolescents showed overweight, according to BMI. Only one female athlete presented an adequate fat percentage and only one boy presented excessive body fat.

**Conclusions:** Although the adolescents attended regular Kendo training, they showed excessive body weight and high percentages of body fat, mostly the girls. In addition, 50% of the athletes were dehydrated after 2 hour training, demanding nutritional orientation and care.

The majority of the athletes lost weight (64.3%) after training, and the mean fluid loss percentage was 1.61%, indicating mild dehydration. The mean sweat rate was 5.7mL/min. After the session, nearly half of the athletes, 42.9%, were mildly dehydrated and 7.1% presented significant dehydration.

Table 1 – Weight loss and sweat rate of the Kendo athletes, after training session.

Athlete	Gender	Age (years)	Initial Weight (Kg)	Final Weight (Kg)	Weight loss (%)	Weight diffence (g)	Sweat Rate (mL/min)
1	F	10	59.1	59.5	-0.68	-0.4	-
2	M	11	63.6	63.8	-0.31	-0.2	-
3	F	13	58.6	59.1	-0.85	-0.5	-
4	M	7	26.6	26.6	0.00	0.0	0.00
5	M	14	43.4	43.6	-0.46	-0.2	-
6	M	9	47.6	47.5	0.21	0.1	0.83
7	F	15	95.1	93.6	1.58	1.5	12.50
8	F	15	44.5	43.8	1.57	0.7	5.83
9	F	17	50.4	49.8	1.19	0.6	5.00
10	F	9	31.2	30.2	3.21	1.0	8.33
11	M	8	30.0	29.2	2.67	0.8	6.67
12	M	13	50.2	49.8	0.80	0.4	3.33
13	M	15	57.0	56.4	1.05	0.6	5.00
14	M	7	22.9	22.4	2.18	0.5	4.17
Mean		11.64	48.59	48.24	0.87	0.35	5.17
SD		3.22	17.95	17.89	1.23	0.55	3.41
Min		7	22.90	22.40	-0.85	-0.50	-
Max		17	95.10	93.60	3.21	1.50	12.50