The estimated energy expenditure is critical for prescribing an appropriate energy intake for dialysis patients. Unfortunately, it is often higher than actual energy intake from a single day, which is hypothesized to be the difference might be reduced with repeated measurements. A total of 206 clinically-stable patients on peritoneal dialysis longer than 3 months were studied. Dietary protein and energy intakes were measured repeatedly and time-averaged values were calculated. Energy expenditures were estimated from Harris–Benedict, Schofield and WHO formulas. Other nutritional indices included anthropometric, biochemical, lean body mass from DEXA and hand grip strength. The time-averaged normalized protein and energy intake were 0.86 ± 0.14 kg/d, 28.24 ± 4.40 kcal/kg/d. The estimated energy expenditures were significantly higher than actual energy intake calculated by above formulas with differences of 369.35, 433.26 and 469.99 kcal/d respectively. When patients were divided into three groups according to the tertile of differences between estimated energy expenditure from Harris–Benedict equation and actual energy intake, we did not observe any differences in serum albumin and prealbumin, lean body mass measured by DEXA, and hand grip strength between groups. Conclusions: The estimated energy expenditure from above formulas still surpassed the actual energy intake even though it was measured repeatedly in well-trained PD patients. The appropriate equations of energy expenditure should be derived from dialysis population specifically.

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