

## ABSTRACT

**PURPOSE:** to determine the strength of the association between the amount of fluid people say they want to drink after exercise and the actual amount of fluid intake within 30 min post-exercise.  
**METHODS:** 11 healthy males ( $1.77 \pm 0.05$  m,  $71.64 \pm 9.0$  kg) completed a total of 27 sessions of stationary bike exercise at 75-85% HRmax in the heat (WBGT =  $27.3 \pm 1.2$ ) to reach a dehydration of 1, 2, or 3% BM. Immediately before completing the exercise ( $D_0$ ), and 15 min after initiating rehydration ( $D_{15}$ ), participants chose from a real-life, 3D scale with 10 identical water-filled bottles (from 100 mL to 1000 mL), which one they would like to drink. Actual *ad libitum* water intake was recorded 15 min ( $I_{15}$ ) and 30 min ( $I_{30}$ ) post-exercise. Intake was completed in the same environment as the exercise.  
**RESULTS:** Participants lost 1.42 kg (0.56 - 2.52 kg) and drank 1239 mL (490 - 1827 mL) of water (mean (range)). Water intake was different over time ( $p < 0.001$ ) registering 966 (408 - 1445mL) and 274 (0 - 610mL) for  $I_{15}$  and  $I_{30}$ , respectively. BM recovery was  $86.5 \pm 40.2\%$  of BM loss.  $D_0$  was significantly associated with  $I_{30}$  ( $r = 0.47$ ,  $p = 0.016$ ) and with  $I_{15}$  ( $r = 0.61$ ,  $p = 0.001$ ).  $D_{15}$  was not significantly associated with  $I_{30}$  ( $r = -0.10$ ,  $p = 0.627$ ).  
**CONCLUSION:** In the absence of fluid intake, the desire to drink water upon exercise termination is significantly associated with early actual drinking. However, the association weakens with time. The desire to drink water after some ingestion has taken place fails to drive further intake.

## INTRODUCTION

- The perception of thirst has been widely used in research on hydration and rehydration.
- Existing scales to assess the perception of thirst are based on the question: *how thirsty do you feel right now?*
- However, we want to know if changing the question to: *how much do you want to drink right now?* It is a better measure of the perception of thirst. For this we propose a 3D scale with bottles.

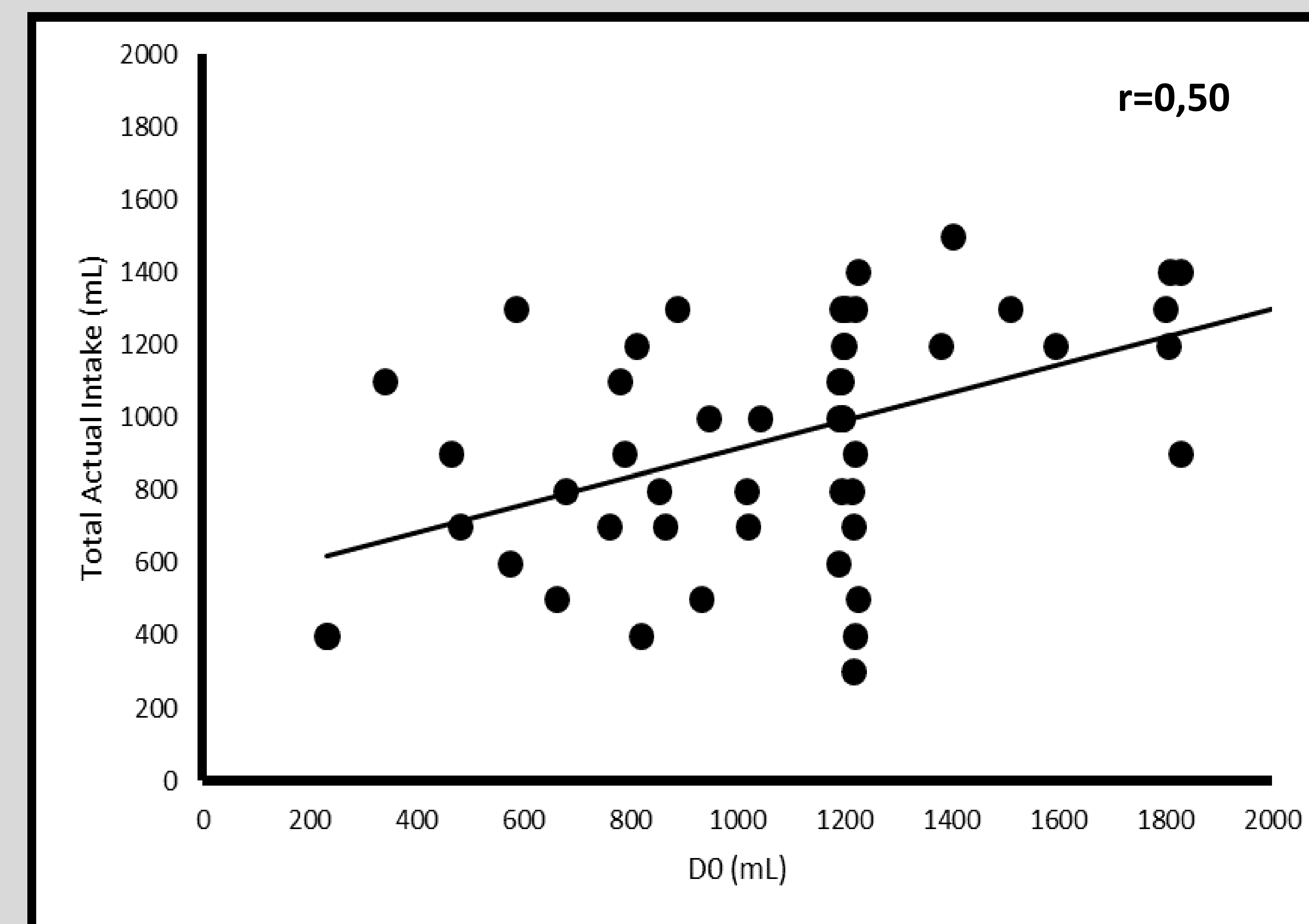
## METHODS

- 17 healthy males ( $1.77 \pm 0.05$  m,  $71.64 \pm 9.0$  kg) completed 3 sessions each of stationary bike exercise in the heat (WBGT =  $27.3 \pm 1.2$ )
- To reach a dehydration of 1, 2, or 3% BM.
- Immediately before completing the exercise ( $D_0$ ), and 15 min after initiating rehydration ( $D_{15}$ ), participants chose from a real-life, 3D scale with 10 identical water-filled bottles (from 100 mL to 1000 mL), which one they would like to drink.
- Actual *ad libitum* water intake was recorded 15 min ( $I_{15}$ ) and 30 min ( $I_{30}$ ) post-exercise. Intake was completed in the same environment as the exercise.

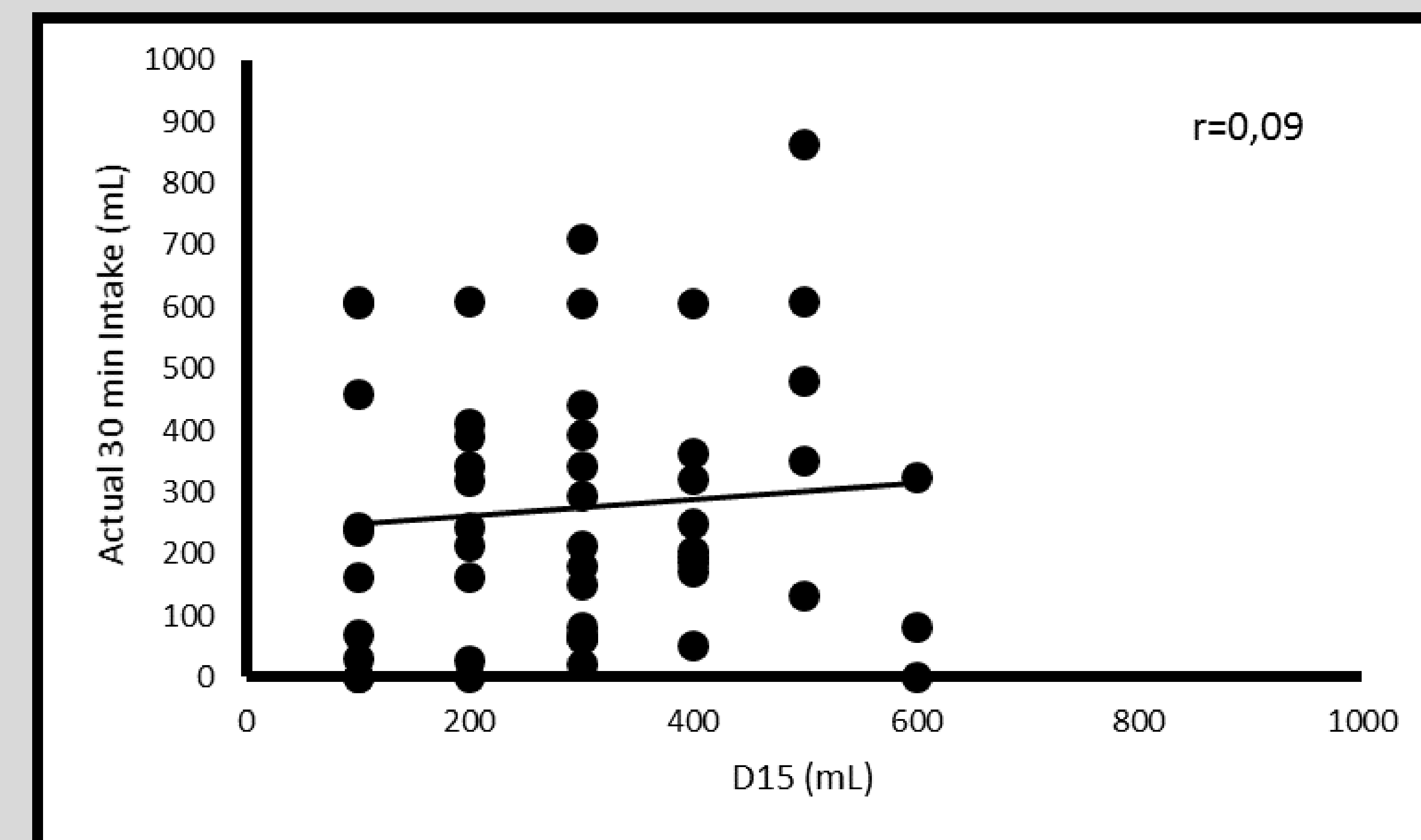
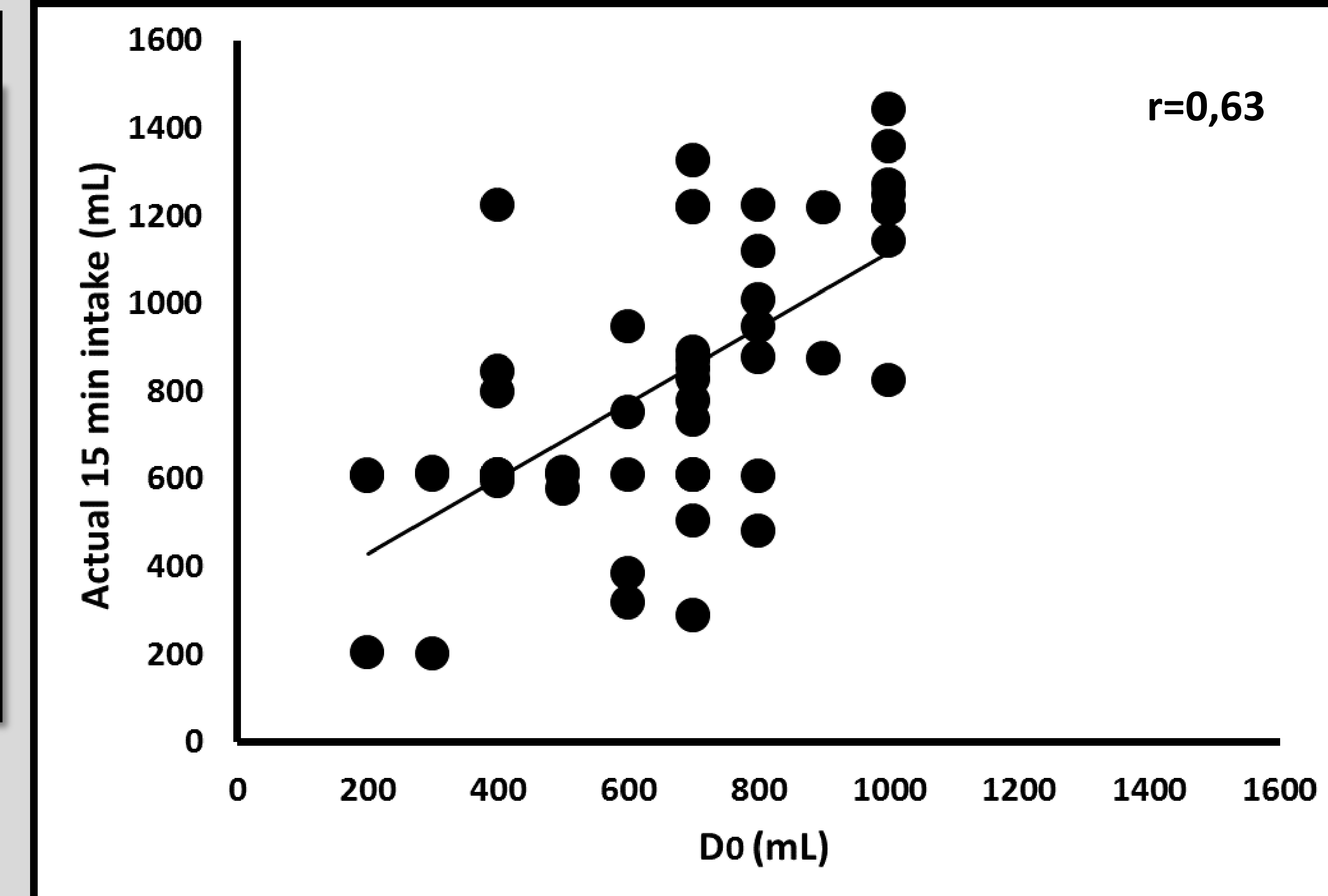


## RESULTS

Participants lost 1.42 kg (0.56 - 2.52 kg) and drank 1239 mL (490 - 1827 mL) of water (mean (range)). Water intake was different over time ( $p < 0.001$ ) registering 966 (408 - 1445mL) and 274 (0 - 610mL) for  $I_{15}$  and  $I_{30}$ , respectively. BM recovery was  $86.5 \pm 40.2\%$  of BM loss



$D_0$  was significantly associated with  $I_{30}$  ( $r = 0.50$ ,  $p = 0.016$ ) and with  $I_{15}$  ( $r = 0.63$ ,  $p = 0.001$ ).



$D_{15}$  was not significantly associated with  $I_{30}$  ( $r = 0.09$ ,  $p = 0.627$ ).

## CONCLUSIONS

In the absence of fluid intake, the desire to drink water upon exercise completion is significantly associated with early actual drinking. However, the association weakens with time. The desire to drink water, after some ingestion has taken place, is not associated with further intake.

## REFERENCES

- Goulet, E. D. (2011). Effect of exercise-induced dehydration on time-trial exercise performance: a meta-analysis. *Br J Sports Med*, 45(14), 1149-56.
- Obika, L. F., Idu, F. K., George, G. O., Ajayi, O. I., & Mowoe, R. S. (2009). Thirst perception and drinking in euhydrate and dehydrate human subjects. *Niger J Physiol Sci*, 24(1), 25-32.