

# A Cross-Over Study Comparing Sertraline Hydrochloride Supplementation to Dialysate Sodium Modeling on Intradialytic Hypotension and on The Hemodialysis Patient Psychological Status.



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## OBJECTIVES

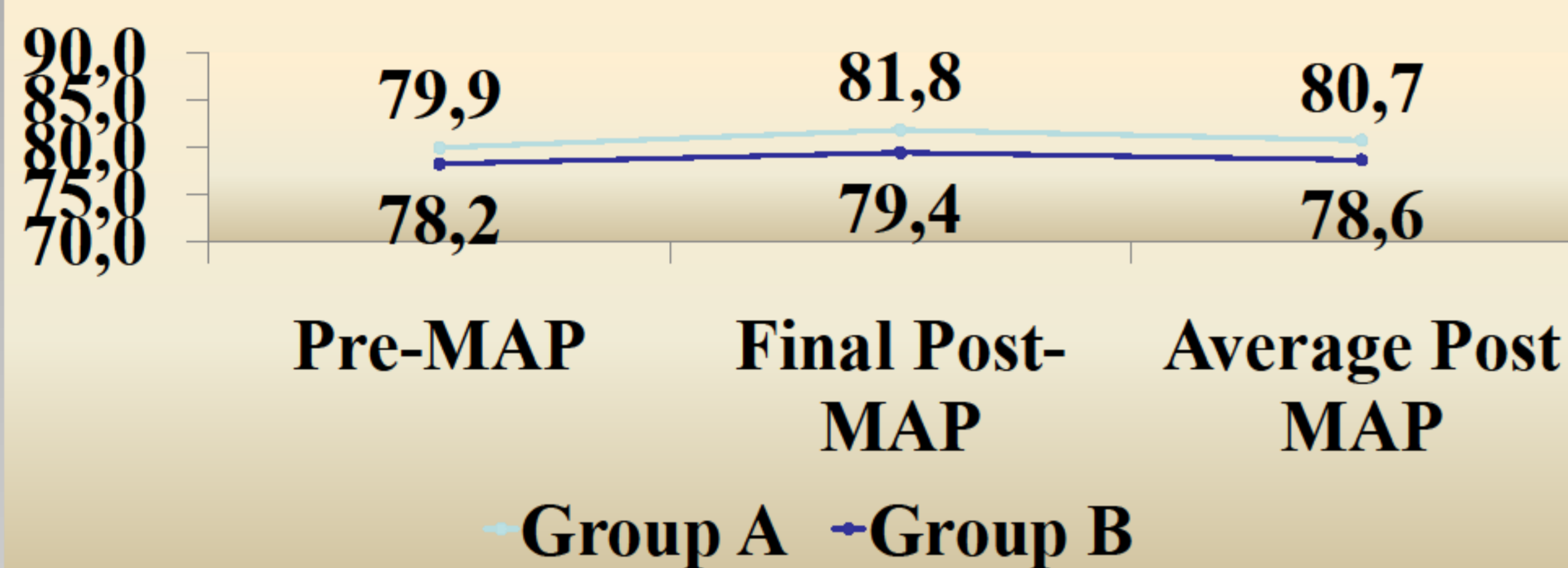
ESRD patients on regular hemodialysis are prone to have intradialytic hypotension (IDH). Efficient treatment of IDH is still a great challenge. Although there are many studies that have been studying the effect of different sodium profiling and some studies evaluating the effect of sertraline hydrochloride supplementation on IDH, there is no previous study that compared both sodium profiling and sertraline supplementation on controlling IDH. **Aim of this study;** to compare sertraline hydrochloride supplementation to dialysate sodium profiling in controlling IDH with any significant additional difference in the patients psychological status.

## METHODS

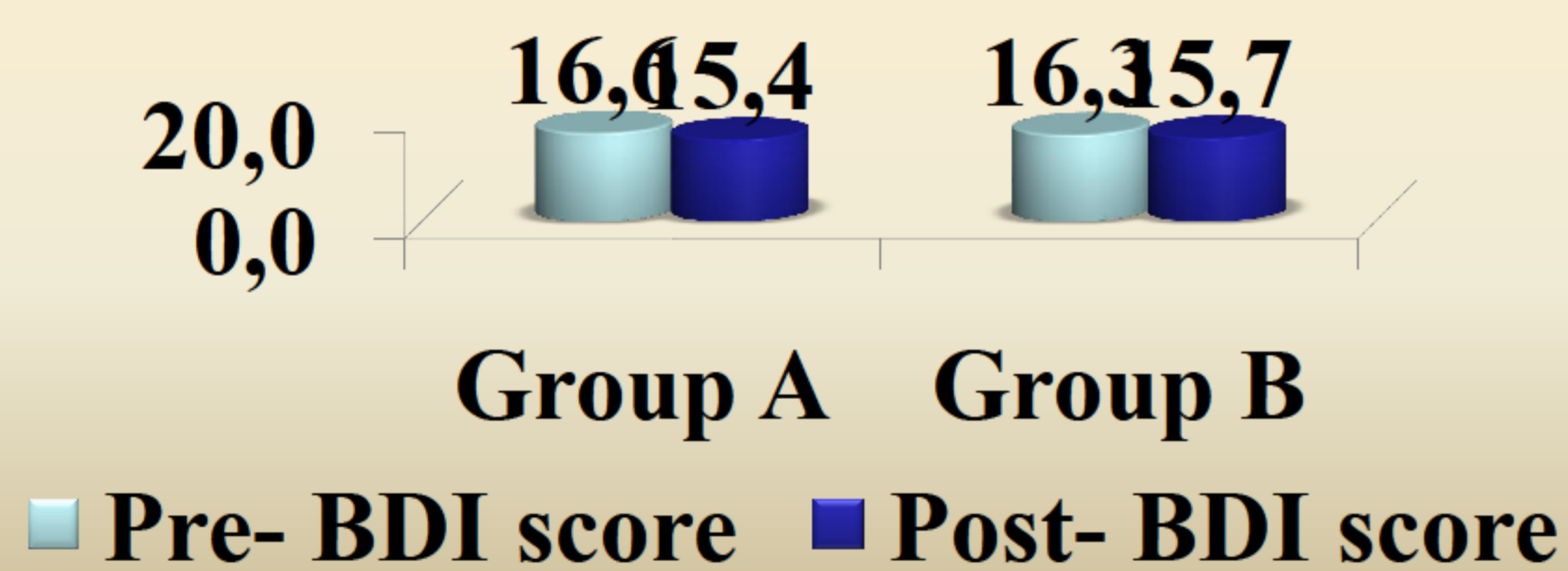
This cross over study included 20 ESRD patients on regular hemodialysis (HD), with history of IDH, divided in two groups; group (A) started with sodium profiling starting with 152 mEq/dl and ending with 138 mEq/dl for three sessions then shifted, two weeks later, to sertraline hydrochloride supplementation 50 mg/day for four weeks. Group (B) started with sertraline followed by sodium profiling after a wash out period of three months. Intradialytic blood pressure, interdialytic weight gain (IDWG), serum sodium before and after the 3 sessions during Na profiling and before, at two & 4 weeks during during sertraline supplementation were monitored. Assessment of depression and its severity was done using Beck's Depression Inventory BDI questionnaire.

## RESULTS

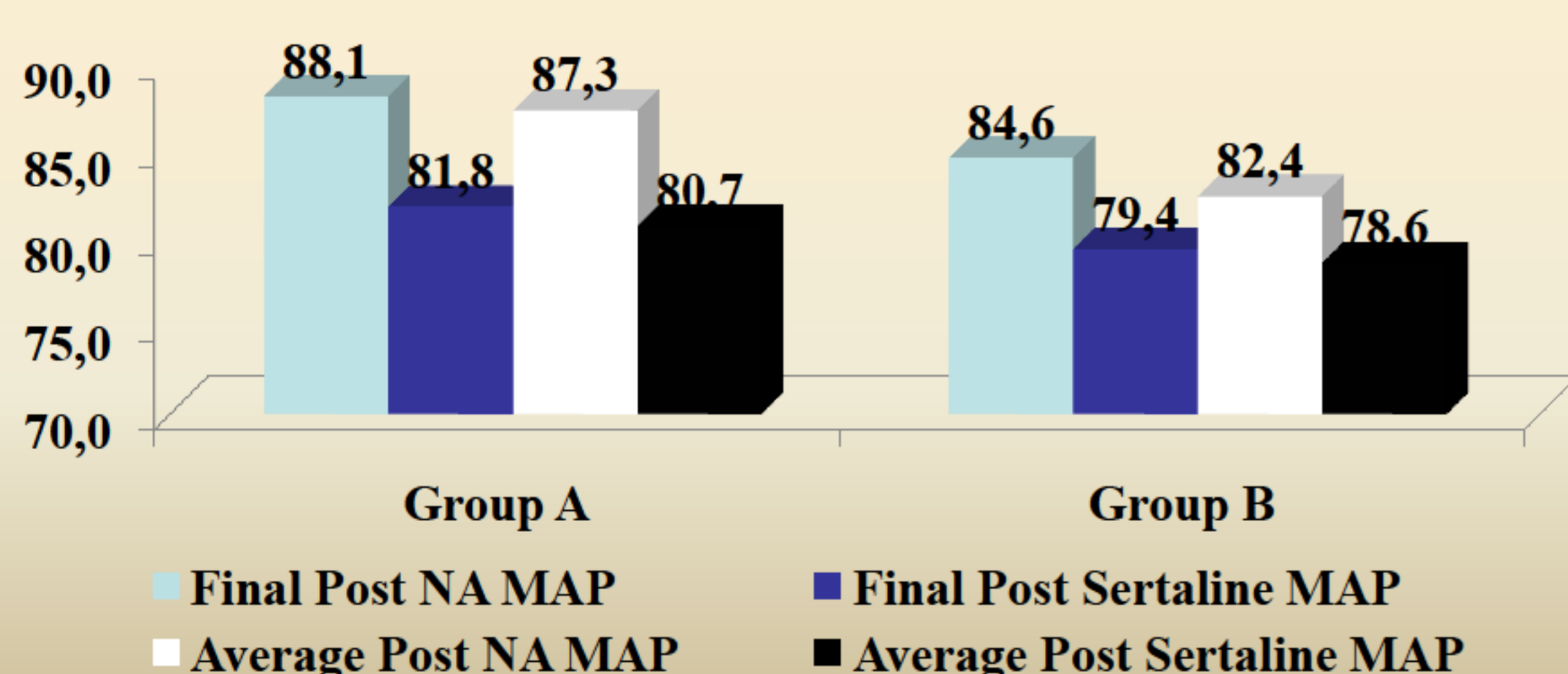
### Sertaline effect on MAP



### Sertaline effect on BDI score



### Cummulative effect of both Na profiling & Sertaline on MAP in both groups



Dialysate sodium profiling showed significant increase in MAP compared to conventional dialysate sodium in both groups (group A MAP;  $88.1 \pm 9.9$  vs.  $78.1 \pm 5.8$  mmHg,  $P=0.005$ . group B;  $84.6 \pm 11.4$  vs.  $76.2 \pm 5.6$  to mmHg,  $P=0.009$ ) but with significant increase in postdialysis serum sodium compared to predialysis level (group A;  $140.7 \pm 1.8$  vs.  $138.7 \pm 2.5$  mEq/l,  $p = 0.005$ . Group B;  $140.3 \pm 1.8$  vs.  $137.7 \pm 1.7$  mEq/dl,  $p = 0.005$  ). There was no significant difference in IDWG during dialysate sodium profiling except for group (A) who showed decrease in inter-dialytic weight gain compared to conventional dialysate sodium ( $2.7 \pm 1$  kg Vs.  $2.9 \pm 0.9$  kg,  $p= 0.04$ ). Sertraline hydrochloride showed no significant increase in MAP (group A;  $81.8 \pm 8$  vs.  $79.9 \pm 7.1$  mmHg,  $p$  value= 0.4. group B;  $79.4 \pm 4.3$  vs.  $78.2 \pm 4.8$  mmHg,  $p = 0.1$ ) but significant decrease in IDWG in group B ( $2.7 \pm 1$  vs.  $3.3 \pm 1.2$  kg,  $p = 0.008$ ) with improvement in the BDI score compared to conventional dialysate sodium ( $16.6 \pm 3.9$  to  $15.4 \pm 3.6$ ,  $p=0.04$  in group A). Comparing sodium profiling to sertraline, the former showed significantly higher average MAP in group A ( $87.3 \pm 9.8$  vs.  $80.7 \pm 6.4$  mmHg,  $p=0.04$ ), fewer number of patients with hypotensive episodes and higher IDWG ( $3.3 \pm 1.2$  vs.  $3 \pm 1.1$  kg,  $p=0.01$  in group B). There was significant positive correlation between serum Na and MAP and significant negative correlation between BDI score and the MAP.

## CONCLUSIONS

Dialysate sodium profiling is superior to sertraline hydrochloride supplementation for intradialytic hypotension but the later is associated with less interdialytic weight gain & better psychological status.

