Abstract

Pomegranate has characteristically high content of antioxidant substances. Free radicals such as ROS, NOS, O₂, H₂O₂, OH, and nitric oxide can be scavenged effectively by pomegranate juice. A synergic positive relationship was found between phenolic contents and total antioxidant capacity, indicating that phenolic is dominant antioxidant components of pomegranate. **Objectives:** To evaluate the effect of pomegranate juice supplementation on nutritional and behavioral outcomes after TBI. **Methods:** 75 patients were enrolled in the study. Those with low behavioral scores were going to the intervention phase, i.e. supplemented with 250ml/day of pomegranate juice and followed every 3 months for one-year period. **Results:** Vitamin E was the most deficient 95.9%, Vitamin D and Vitamin A deficiency were 83.7% and 61.2% respectively. Deficient minerals were magnesium 79.%, potassium 67.3%, zinc 53.1%. Vitamin A, D and E in TBI patients were significantly lower than in normal patients p=0.008, 0.001, 0.03 respectively. Tau protein and GSH were lower in TBI patients than in normal group p=0.57 and 0.13 respectively. **Conclusion:** Pomegranate Juice may improve behavioral outcomes.