

## INFLUENCE OF ALCOHOL CONSUMPTION ON THE HYDRATION STATUS IN HEALTHY ADULTS

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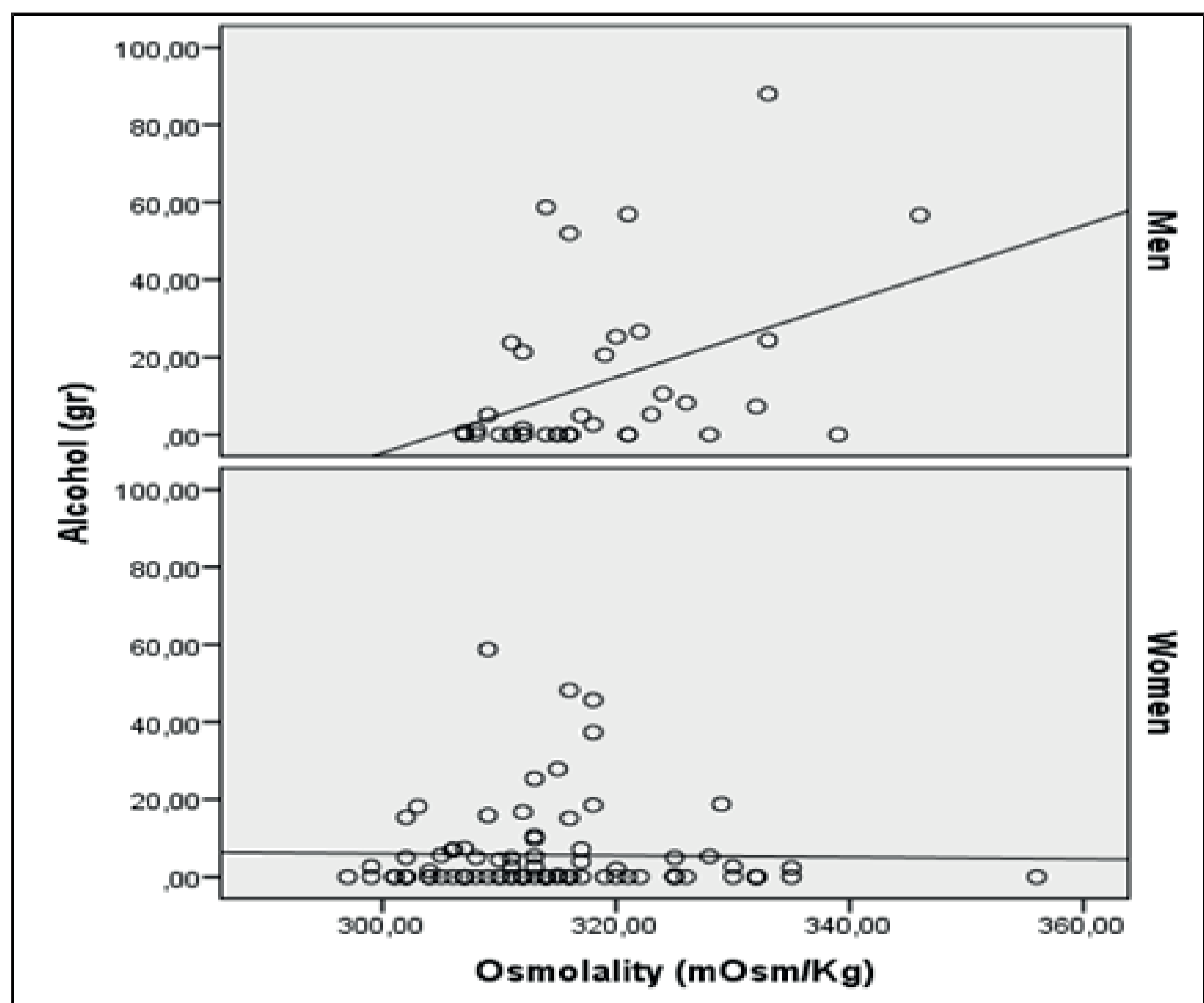
**INTRODUCTION:** Both osmolality and water intake are considered key biomarkers of the hydration status, which is necessary for an adequate cellular homeostasis and wellbeing. However, alcohol intake has been shown to affect the hydration status due to an elevated diuresis effect.

**OBJECTIVE:** To evaluate the influence of alcohol consumption on the hydration status of healthy adults.

**METHODOLOGY:** This study was performed in 123 adults (25-45 y., 69% women). Blood samples were collected to analyze osmolality levels and a 3-day dietary record was used to assess total water intake (TWI): drinking water, other liquids (soft drinks, juices, milk, beer, wine and spirits) and solid foods, along with alcohol intake (grams). Mann-Whitney U test was performed to analyze sex differences and correlations were performed by the Spearman test adjusted by sex.

**RESULTS:** No significant differences were found for TWI in men (2.19 L/d) and women (2.21 L/d). Men consumed insufficient TWI according to EFSA recommendations (men=2.5 L/d).

Osmolality and liquids intake were significantly higher in men ( $P < 0.05$ ), as well as the intake of alcoholic beverages ( $P < 0.05$ ). A positive correlation between osmolality and alcohol consumption was found in men ( $P < 0.05$ ), but not in women.



	Men (n=38)		Women (n=85)		P <sup>≠</sup>
	Mean	SD	Mean	SD	
<b>Osmolality (mOsm/kg)</b>	<b>318.03<sup>a</sup></b>	<b>9.07</b>	<b>314.07<sup>b</sup></b>	<b>10.17</b>	<b>0.024</b>
<b>Total dietary water (gr)</b>	2190.2	714.53	2213.9	904.37	NS
<b>Water from liquids (ml)</b>	<b>674.97<sup>a</sup></b>	<b>382.41</b>	<b>475.99<sup>b</sup></b>	<b>231.80</b>	<b>0.008</b>
<b>Beer (%)</b>	<b>11.47<sup>a</sup></b>	<b>19.14</b>	<b>1.91<sup>b</sup></b>	<b>4.27</b>	<b>0.019</b>
<b>Spirits (%)</b>	<b>0.62<sup>a</sup></b>	<b>1.33</b>	<b>0.51<sup>b</sup></b>	<b>2.53</b>	<b>0.020</b>

≠ Different superscripts mean significant differences between sexes.  $P < 0.05$ ; U-Man Whitney test fixed by sex.

**CONCLUSION:** A shift in the liquid intake pattern in men, by decreasing alcohol intake and promoting water consumption, might be advisable in order to lower osmolality levels and achieve a better hydration status.