

## LEVEL OF LIQUID CONSUMPTION AND ITS QUANTITATIVE CHARACTERISTICS AMONG YOUNG ADULTS

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**Background:** Water is one of the most important factors, without it human existence is impossible. Water is necessary for metabolism, cellular homeostasis, regulation of body temperature, blood circulation, etc. [1] There are various methods for determining the level of adequate fluid intake per day, such as determining blood osmolarity, determining urine biomarkers, etc. [2-5] According to the US National Medical Academy, the average amount of adequate fluid intake for adults is: for men from 2,500 to 3,700 ml per day, for women from 2,000 to 2,700 ml per day, with adequate fluid intake, which is the sum of consumption of water, moisture products and beverages. Despite the current recommendations, there are no clear standards for water consumption, as the amount of water consumption, or more precisely, fluid consumption, depends on many physical factors and physiological processes, such as physical activity, climate, diet, kidney capacity, body weight, etc. [6]

**The aim of the study:** to study the volume, qualitative and quantitative characteristics of fluid intake in young people of different genders.

**Materials and methods:** An anonymous online survey was conducted on 68 young men and women aged 24 to 28, in which case men made up 23.5% (n = 16) and women 76.5% (n = 52). The survey was conducted using the author's questionnaire developed according to the prototype of the Google Forms tool in the period from 01.03.22 to 30.03.2022.

The research included next stages: creating and piloting a questionnaire, collecting results and processing data with further generalization. The author's questionnaire included 7 closed questions and 1 open question.

Characteristics of the study group: a random group of respondents. Links to the questionnaire were distributed by the authors of the study using online social messengers Viber, Telegram. Statistical analysis of the results of the study was performed using Microsoft Excel and statistical analysis package SPSS 22.0

**Results and discussion.** According to the results of the analysis among the surveyed people, the average age among women is 27 (26; 27), the average age among men is 27 (25; 27). There was no statistical significant difference between the age of men and women  $U = 28000$ ,  $p > 0,05$  (0.871).

According to the survey, the majority of respondents believe that they do not drink enough fluids, namely 58.8% (n = 40), of which 90% (n = 36) are women, against

41,2% (n = 28) respondents who believe that they drink enough fluid. Revealed a gender difference between the assessment of the amount of fluid consumed, namely that most women (69,2%) believe that they do not drink enough water unlike men (25%) (p <0, 01). Analysis of the results of the assessment of the volume of fluid consumed is given in table. 1

Table 1.

Volume of all fluids consumed (including water, coffee, tea) in young adults of different genders

Respondents	The volume of all fluid consumed				
	From 500 ml to 1 L	From 1 L to 1,5 L	From 1,5 L to 2 L	From 2 L to 2,5 L	From 2,5 L to 3 L
Men (%)	-	25	-	50	25
Women (%)	38,5	23,1	23,1	15,4	-
% of the total number of respondents	29,4	23,5	17,6	23,5	5,9
p	p<0,01	p=0,875	p<0,05	p<0,01	p<0,001

Analysis of fluid intake among participants in this study compared to the minimum recommended fluid intake of the US National Medical Academy (for men from 2.5 liters, for women from 2 liters of fluid) showed that only 25% men, and 15% of women meet these recommendations, although according to the literature, these amounts may be different.

Among the respondents, 23.5% note that 50-75% of liquids are beverages such as tea and coffee, 52.9% of people drink these beverages in the amount of 25 to 50% of the total amount of liquid, and 23.5% persons consume additional drinks in the amount of up to 25% of the total amount of fluid per day. We also determined the amount of pure water consumed by young adults, which is given in table. 2.

Table 2.

The amount of clean water consumed among young adults of different genders

Respondents	The volume of clean water consumed				
	To 500 ml	From 500 to 1 L	From 1 L to 1,5 L	From 1,5 L to 2 L	From 2 L
Men (%)	-	25	50	-	25
Women (%)	46,2	30,8	7,7	15,4	-
% of the total number of respondents	35,3	29,4	17,6	11,8	5,9
p	p<0,01	p=0,658	p<0,001	p<0,05	p<0,001

According to our data, almost a third of young people consume up to 500 ml of clean water per day, one in three consume water from 500 to 1 liter, and only a third of people consume pure water in excess of 1 liter per day.

The analysis of the data of the questionnaire on the improvement of well-being in the case of an increase in the volume of fluid consumed showed that all men noted a subjective improvement in general condition. Among women, 69,2% had an improvement in well-being, 15,4% did not notice an improvement, and 15,4% ( $p < 0,05$ ) did not try to increase the amount of fluid consumed, among the latter all consumed a volume of fluid from 1,5 liters up to 2,5 liters.

### **Conclusion**

1. More than half of the respondents (58,8%) - young adults believe that they do not drink enough fluids, of which almost all (90%) are women ( $p < 0,01$ ).

2. The lowest volume of fluid is consumed by women (29,4%) ( $p < 0,01$ ) against men.

3. Beverages such as coffee and tea in the amount of up to 50% of the total liquid are consumed by more than half of the respondents to ensure water balance.

4. Improvement in well-being from an increase in the volume of any fluid consumed is more often noted by males. ( $p < 0,05$ )

### **References:**

1) Armstrong, L. E., & Johnson, E. C. (2018). Water intake, water balance, and the elusive daily water requirement. *Nutrients*, 10(12), 1928. <https://doi.org/10.3390/nu10121928>

2) Manz F., Wentz A. 24-h hydration status: Parameters, epidemiology and recommendations. *Eur. J. Clin. Nutr.* 2003;57:S101–S108. doi: 10.1038/sj.ejcn.1601896.

3) Sawka M.N., Cheuvront S.N., Carter R. Human water needs. *Nutr. Rev.* 2005;63:S303–S309. doi: 10.1301/nr.2005.jun.S30-S39.

4) Greenleaf J.E. Problem: Thirst, drinking behavior, and involuntary dehydration. *Med. Sci. Sports Exerc.* 1992;24:645–656. doi: 10.1249/00005768-199206000-00007.

5) Kratz A., Ferraro M., Sluss P.M., Lewandrowski K.B. Laboratory Reference Values. *N. Engl. J. Med.* 2004;35:1548–1563. doi: 10.1056/NEJMcp049016.

6) Institute of Medicine . Dietary reference intakes for water, potassium, sodium, chloride, and sulfate. Institute of Medicine; Washington, DC, USA: 2004.