FORENSIC AND PHARMACEUTICAL STUDY OF THE PRESENCE OF A CAUSAL LINK BETWEEN THE DEGREE OF ALCOHOL ABUSE AND QUALIFICATION LEVEL OF THE RESPONDENTS

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Summary. As a part of the forensic and pharmaceutical researches concerning causes and conditions that lead to alcohol abuse it was important to conduct a study among patients with various education and qualification levels to determine is there a possible causal link. That's why authors conducted a research among clinic patients with alcohol abuse using questionnaire to determine presence of a causal link between the degree of alcohol abuse and qualification level of the respondents. After analyze of the results it was possible to make a conclusion, that there is no causal link between the degree of alcohol abuse and qualification level among audited respondents. Therefore, made an assumption that more in-depth analysis is needed in the stated field.

Keywords: forensic pharmacy, pharmaceutical law, alcohol abuse, qualification level, drug addiction treatment.

Introduction.

According to the Ministry of Healthcare of Ukraine during 2014 registered more than 650 thousand people with alcohol dependence, which is 1.8% of the adult population [1, 2]. However, due to attention to the fact that most people with alcohol addiction do not seek medical treatment these numbers can be easily increased by 2-2.5 times (1.3-1.6 million persons or 3.5-4.4 % of the adult population) [3, 4]. One of the factors of alcohol addiction among the population is uncontrolled consumption of alcoholic beverages that is a gateway to alcoholic behavior [5, 6, 7]. Among the styles of alcoholic behavior, which formed among the youth due to use of alcohol, there are: the habit to consume a large amount of liquor in a short period of time; drunken manner "very drunk"; drinking alcohol regularly at certain times [8, 9]. Actually, alcoholism takes no more than 6% of the negative consequences of abusing with alcohol of any strength, and a much larger problem is the increased household injuries, transport accidents, family problems and criminal acts [10, 11, 12]. That is why we wanted to determine the presence of casual link between the degree of

alcohol abuse (on example of beer) and the qualification level of the respondents from the position of forensic pharmacy.

Materials and methods.

On the base of drug treatment clinic "Avicenna" from Kharkiv, Ukraine (led by MD, associate professor Chuev Y.F.) we examined 70 respondents. For a comprehensive assessment of the status of the respondents we used addictive test "Audit" [13], which was improved by the authors. This test used to assess the severity of disorders related to alcohol abuse (on example of beer). In addition, the test included additional questions about the overall length of service and professional experience level of the respondents to determine the qualification. The study used survey methods, statistical method of determining the qualification of respondents, graphical and tabular.

One of the main methods of the research were questionnaires followed by the statistical analysis of the results. Seventy respondents took part in the survey of different age, sex, education, employment, job, which divided into 4 groups by sex and age:

- Men under 25 years – Group 1;
- Men over 25 years – Group 2;
- Women under 25 years – Group 3;
- Women over 25 years – Group 4.

To determine the relation between the degree of alcohol abuse (on example of beer) and the qualification of respondents, they were divided into 3 groups by level of education: Group 1 – persons with complete higher education; Group 2 – persons with incomplete education; Group 3 – individuals enrolled in schools and other educational institutions.

In the preparatory phase of the study we carried out surface analysis of the research materials to screen out properly completed questionnaires and calculating the minimum amount of data for representative results of the study by the formula [14, 15]:

$$n = \frac{N}{1 + 0.015 \cdot N}$$

where n – quantity of the question naires;
N – overall quantity of the specialists.

After the appropriate calculations determined that for sufficiently representative data it is enough to process 34 questionnaire respondents. Because all 70 questionnaires of the "Audit" test were filled properly, it was needed to process all 70 questionnaires.

The first stage of the study was to determine the qualification level of the respondents (K) using the formula:

$$K = 2M+T/3,$$

where M – expert experience in the specialty;
T – total experience in the field.

According to the results carried out the analysis values of the qualification of the respondents' rate, the experience gained through experience over 10 years – 1.0; 8-10 years – 0.8; 5-8 years – 0.5; 3-5 years – 0.3; 3 years – 0.1. The more desired coefficient qualification respondent to unity – the higher the level of qualification.

Results and discussion.

In order to determine the presence of a causal relationship between alcohol abuse (on example of beer) and the qualification level of the respondents from the position of forensic pharmacy with the test "Audit" researched the level of beer consumption among the population of Ukraine.

Because of the distribution of respondents by sex and age, four groups were gained. The share of respondents in each group shown on Fig. 1.

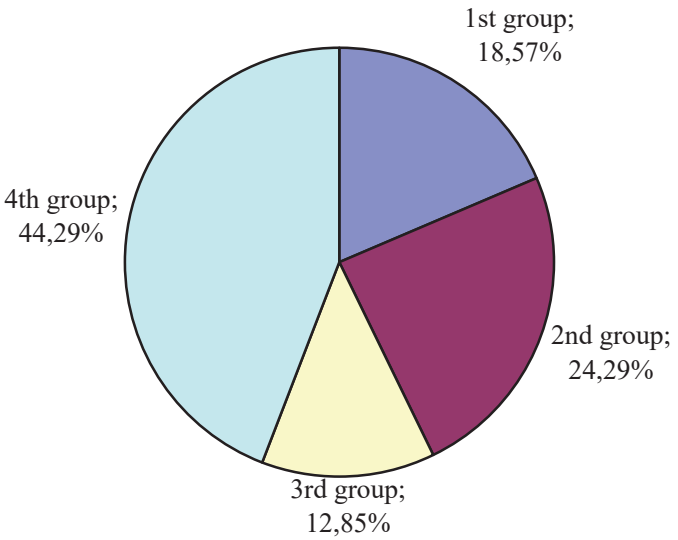

Fig. 1. The share of respondents between each group

Fig. 1 shows that among all respondents who participated in the survey almost half is the group 4, which includes women over 25 years.

The next step of forensic and pharmaceutical research was to determine the qualification level of respondents using the above formula (Table 1).

Table 1
Qualification level of the respondents

№	**Sex**	**Age**	**Qualification level range**	**Qualification level average**
1.	Men	Under 25 years	0-0,5	0,17
2.	Men	Above 25 years	0-1,0	0,8
3.	Women	Under 25 years	0-0,3	0,14
4.	Women	Above 25 years	0-1,0	0,8

The analysis determined that the qualification level of men and women above 25 years (group 2 and 4) is equal – 0.8. Skill level of men under 25 years (group 1) is higher than in women (Group 3) by 0.03. This can be explained by the fact that men with young children begin to work and have more experience than women. According to a survey found that men under 25 years (group 1) are more focused on vocational secondary education, which may be faster than higher and more women tend to receive higher education.

During the analysis of the "Audit" test results was selected most common answers of the respondents to the questionnaire (Table 2).

Table 2

Most common answers to the questionnaire among the four groups of respondents

Respondents' groups			
Male under 25 years	*Male above 25 years*	*Women under 25 years*	*Women above 25 years*
Education			
Vocational education	Higher	Incomplete higher	Higher
46, 1 %	52,94 %	66,66%	71 %
Do You have children?			
No	1 child	No	1 child
92, 30%	64,71%	100%	41,93%
Which alcohol beverages do You consume besides beer?			
Vodka	Vodka	Wine	Wine
46,15 %	52,94%	55,55%	61,29%
How often do You consume beer?			
2 to 4 times per month	2 to 4 times per month	Once a month or less	Once a month or less

53,85%	47,1%	77,77%	41,93%
How much beer do You drink at a time? *(reply classify in standard doses of pure ethyl alcohol – ethanol, based on the fact that such a unit dose contains 10 g of ethanol, i.e. 330 ml of beer)*			
1 or 2 standard doses	1 or 2 standard doses	1 or 2 standard doses	1 or 2 standard doses
46,15%	58,82%	66,66%	45,16%
How often do You drink 6 standard doses at a time?			
never	never	never	never
61,53%	52,94%	77,77%	80,65%
How often during the last year, You started to drink alcohol and could not stop?			
never	never	never	never
84,62%	94,11%	77,77%	83,87%
How often during the last year, You drank more than was necessary?			
never	never	never	never
69,23%	76,47%	66,66%	74,19%
How often during the last year, You had to drink in the morning to bring yourself “to order after yesterday"?			
never	never	never	never
100%	94,11%	77,77%	93,55%

How often during the last year, You felt guilty or felt remorse after being drunk?			
never	never	never	never
84,62%	70,59%	66,66%	80,65%
How often during the last year You could not remember what happened during the last drinking beer?			
never	never	never	never
84,62%	88,24%	77,77%	90,32%
Have You inflicted injury due to someone else was drinking beer?			
no	no	no	no
76,92%	94,11%	100%	93,55%
Did anybody from relatives, friends, doctors or other health professionals told You to drink less beer?			
no	no	no	no
69,23%	82,35%	100%	93,55%
What medications you use for relieving symptoms of hangover?			
None	None	None	None
46,15%	64,7%	55,55%	77,42%
Total points			
Less than 8	Less than 8	Less than 8	Less than 8
76,92%	76,47%	77,77%	83,87%

Analyzing the data from the table 2, shown the difference between the results between men of all ages and women. To the question "Which alcohol beverages do you consume besides beer" about 50% of men answered "vodka", and 58% of women – "wine". The frequency of beer drinking among men prevail over women, for men the most common response was "two to four times a month," and women "once a month or less." Next, respondents were similar in their responses, but the proportion of responses among men is less than among women.

To achieve given purpose, we compared the average skill level and proportion of respondents' who scored more than 8 points (Table 3).

Table 3
Respondents' qualification level

№	**Sex**	**Age**	**Qualification level average**	**The share of respondents' answers who scored more than 8 points**
1.	Men	Under 25 years	0,17	23,08%
2.	Men	Above 25 years	0,8	23,53%
3.	Women	Under 25 years	0,14	22,23%
4.	Women	Above 25 years	0,8	16,13%

Table 3 shows that the proportion of respondents' who scored more than 8 points is: ● among men the percentage of young people under 25 who require further in-depth examination of substance abuse is 23.08%; ● among men above 25 years this percentage is 23.53; ● among women under 25 years – 22,23%; ● among women above 25 years – 16.13%. Despite the fact that the qualification level of respondents from the 2nd and 4th groups

are the same, the number of respondents for the answers to the test "Audit" questions got more than 8 points significantly different. This fact indicates no causal links between the degree of alcohol abuse (on example of beer) and the qualification level of the respondents.

However, the results indicate that the highest level of alcohol abuse, especially of beer, found among men of all ages (1st and 2nd groups of respondents) and women under 25 years (3rd group, because these groups of respondents received a large percentage of people who require further in-depth examination.

Conclusions.

The results of a study using the test "Audit" found no causal links between the degree of abuse by alcoholic beverages (on example of beer) and the qualification level of the respondents.

However, the results of the study revealed 3 groups of people (men of all ages and women under 25 years) that require further in-depth survey concerning the abuse by alcohol, including beer, and that should be more to consider when improving medical and pharmaceutical provision and development of activities to prevent and combat the disease due to the prevalence of addictive substance alcohol contained in beer.

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