



SPREADING CHARACTERISTICS AND GENDER ASPECTS OF COMPLICATED NON-ALCOHOLIC STEATOHEPATITIS IN A POPULATION OF DIFFERENT AGE (EXAMPLE OF VALLEY CONDITIONS)

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Abstract:

In modern sources, non-alcoholic steatohepatitis is presented as fatty hepatosis, correctly reflecting its pathogenetic essence, and it is emphasized as an increasingly widespread disease. The disease is mainly caused by poor diet and lack of physical activity. Also, diabetes, hormonal disorders and genetic diseases, as well as all risk factors of cardiovascular diseases (arterial hypertension, alcohol consumption, smoking, mental stress, less than normal consumption of fruit and vegetable products, age and gender factors, metabolic syndrome, excess body weight, obesity, etc.) are considered to be the initial and/or aggravating causes of the problem of this period - if predictive, preventive or preventive measures are not carried out in time, scientifically based and individualized, this situation will lead to liver inflammation (steatohepatitis) and dysfunction the risk of import remains.

Keywords: Non-alcoholic steatohepatitis, predictive, preventive, prophylactic, chronic liver diseases, alcohol consumption, cardiovascular diseases.

In modern sources, NSTG is presented correctly reflecting its pathogenetic essence as fatty hepatosis, and it is emphasized as an increasingly widespread disease. The disease is mainly caused by poor diet and lack of physical activity. Also, diabetes, hormonal disorders and genetic diseases, as well as all risk factors of STD diseases (DLP, AG, alcohol consumption, smoking, mental stress, less than normal consumption of fruit and vegetable products, age and gender factor, metabolic syndrome, excess body weight, obesity, etc.) are the starting and/or aggravating causes of the problem of this period - if predictive, preventive or preventive measures are not carried out in time if they are not carried out in a scientifically based and individualized manner, this situation will lead to inflammation of the liver (steatohepatitis) and dysfunction risk remains. ¹This conclusion has been confirmed in studies conducted in South America, the Middle East, Africa, and Asia (88). Unfortunately, researchers have demonstrated that modern science does not have adequate testing tools/methods for the scientific study of fatty liver disease. Because this disease develops and passes completely differently in experimental animals, or based on them, it is not possible to directly present conclusions and clinical recommendations to practice.

20-year (2000-2020) characteristics of the prevalence of non-alcoholic steatohepatitis (NSGST) in Andijan conditions in the population aged 18-74, in men and women of the Andijan region of the valley were studied and determined [Table 1 and Fig. 1 show the observation of the analysis].

The analysis of the results of 20-year epidemiological monitoring revealed the following: 1) NSGst is confirmed with a detection frequency of 10.4% in the general population; 2) the detection frequency for 20 years is recorded from 8.3% and 8.0% and is almost unchanged; 3) a strong growth trend of NSGst is observed during the previous 16 years from 8.3% (in 2000) to 34.7% (in 2016), i.e. an increase of 3.9 times; 4) in the next 4 years, it is determined in a decreasing trend from year to year: in these years, NSTst reaches about 4 times, that is, it is confirmed by expressing the average frequency of decrease from 8.0% per year [$X^2=4.015$; $S=0.030$; $RR=1.198$; $95\% CI=1.007-1.424$].

NSGst is determined differently among men (11.2%) and women (9.4%). The frequency of the difference is 1.8% and it is predominant in men ($P<0.05$).

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In 20 years of epidmonitoring, the prevalence of NSG in men has decreased from 11.8% to 8.7% (P<0.05 by 3.1%). 16 years of dramatic growth

1 – table

20-year dynamics of the prevalence of chronic steatohepatitis in the Andijan population

Audit years	Male population			R	Female population			General population		
	N	N S G c t			N	N S G c t		N	N S G c t	
		n	%			n	%		n	%
The 2000 year	136	16	11.8	<0.05	104	4	3.8	240	20	8.3
The 2001 year	186	45	24.2	>0.05	122	19	15.6	308	64	20.8
2002	156	0	0.0	-	110	2	1.8	266	2	0.8
2003	146	35	24.0	>0.05	114	25	21.9	260	60	23.1
The 2004 year	149	1	0.7	>0.05	118	1	0.8	267	2	0.7
The 2005 year	73	13	17.8	>0.05	56	5	8.9	129	18	14.0
2006	164	0	0.0	-	140	2	1.4	304	2	0.7
The 2007 year	74	31	41.9	>0.05	68	30	44.1	142	61	43.0
2008	127	0	0.0	-	123	0	0.0	250	0	0.0
2009	116	23	19.8	>0.05	95	16	16.8	211	39	18.5
The 2010 year	186	0	0.0	-	154	0	0.0	340	0	0.0
The 2011 year	144	15	10.4	>0.05	106	9	8.5	250	24	9.6
The 2012 year	128	20	15.6	>0.05	108	14	13.0	236	34	14.4
The 2013 year	150	25	16.7	>0.05	107	19	17.8	257	44	17.1
The 2014 year	40	1	2.5	>0.05	61	1	1.6	101	2	2.0
The 2015 year	28	0	0.0	-	34	0	0.0	62	0	0.0
The 2016 year	40	13	32.5	>0.05	32	12	37.5	72	25	34.7
The 2017 year	111	12	10.8	>0.05	97	10	10.3	208	22	10.6
The 2018 year	106	11	10.4	>0.05	100	11	11.0	206	22	10.7
The 2019 year	109	8	7.3	>0.05	143	9	6.3	252	17	6.7
The 2020 year	115	10	8.7	>0.05	109	8	7.3	224	18	8.0
2000 - 2020	2484	279	11.2	<0.05	2101	197	9.4	4585	476	10.4
$\chi^2 = 4.015$; S=0.030; RR = 1.198 ; 95% CI =1.007 -1.424										

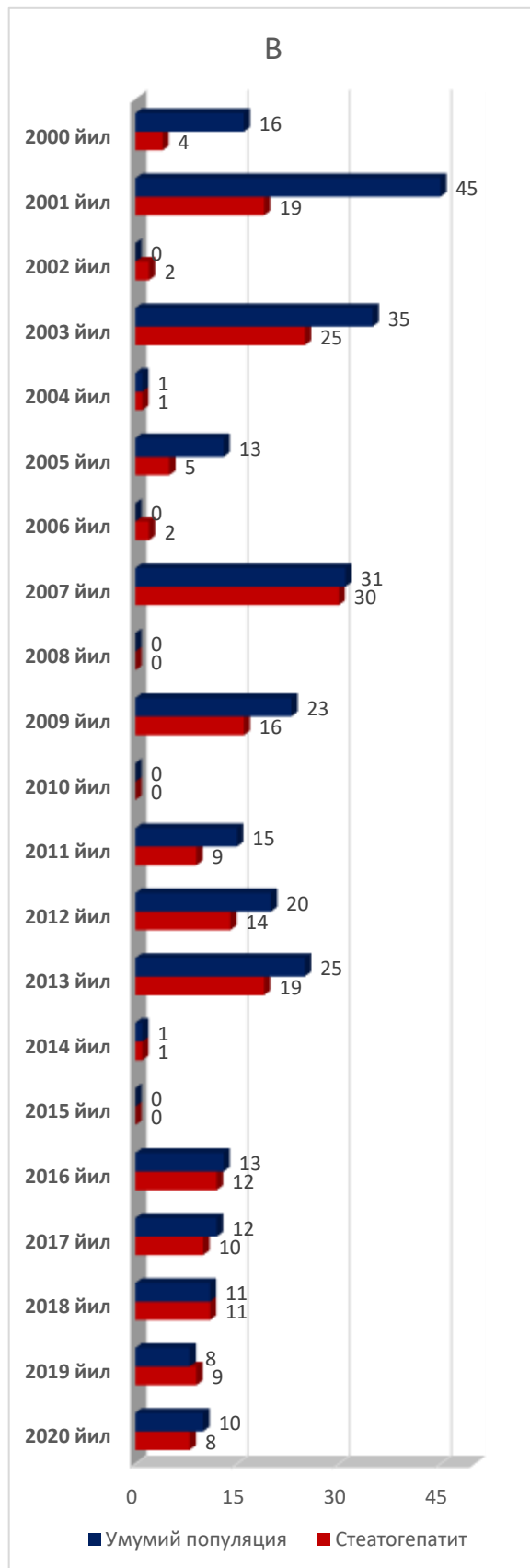
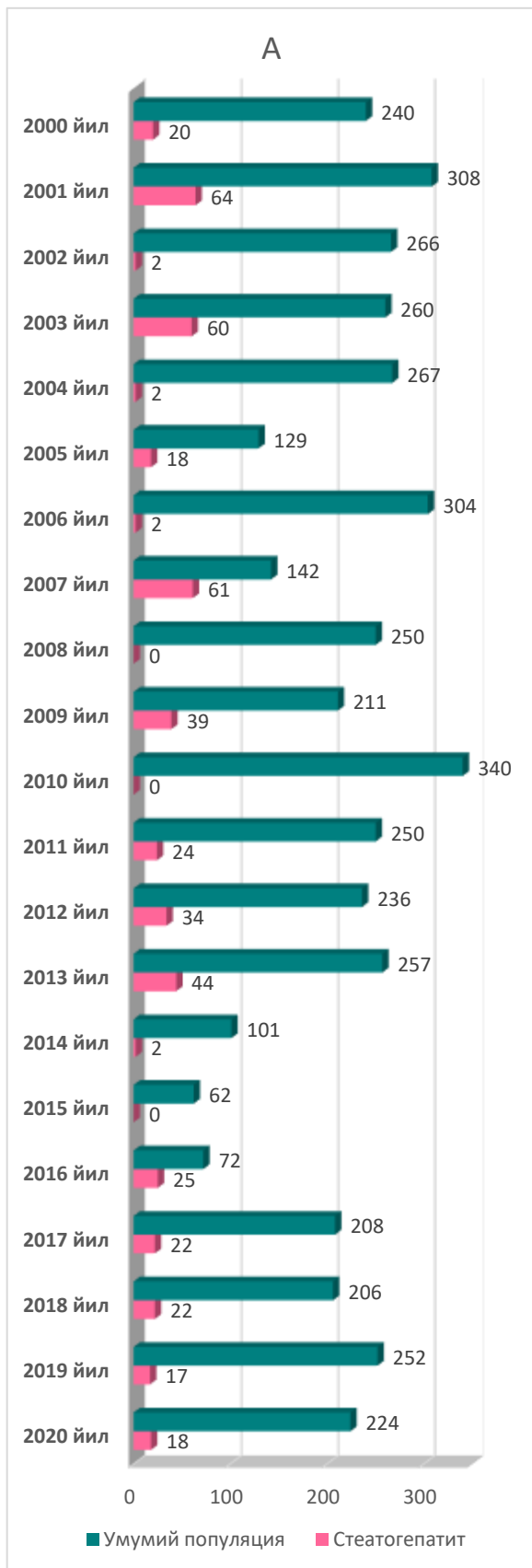
Note: in this and the following tables:

*- Fisher's exact test (P) of the difference between two independent samples (where the differences in indicators between men and women in each year section are compared).

**-total years (2000-2020) differences in indicators between men and women: χ^2 – Chi-square

criterion with Yates correction; S-Pearson's conjugation coefficient; RR – relative risk indicator; 95%CI is a 95% confidence interval.

observed (by 20.7%), then in the next 4 years it is confirmed in a decreasing trend by 23.8%.



- **Figure 1. In the population of Andijan, where chronic hepatitis of steatohepatitis was detected 20-year dynamics of distribution frequency in composition (A) and by gender (B).**

In the population of young women, the opposite epidemiological trend is confirmed, not a decrease over the years, but an increase in the frequency of NSGst from 3.8% to 7.3% (by 3.5%) is noted ($P < 0.05$). In women, the increased frequency of the disease (up to 37.5%) is observed for 16 years, and in the next 4 years it is confirmed by 5.3 times (30.2%), that is, a significant decrease ($P < 0.001$).

It can be concluded that the 20-year average prevalence of NSGst is 10.4%, with a significant difference, and it is more common in men. The trend of decreasing in dynamics in men and almost doubling in women is confirmed in NSGst. The same trend was noted in many studies [6, p. 32-36; 7, p. 684; 8, p. 31-41].

§3.2. Prevalence characteristics and gender aspects of complicated non-alcoholic steatohepatitis in the population of different ages (as an example of the valley conditions)

Another important task of the dissertation research was to study the characteristics of the distribution of complicated types of NSGst in the population of young (18-44), mature (45-59) and old (60-74 years) men and women (in the case of valley conditions) (Table 2 and Figure 2 shows the numerical analysis of this).

2 - table

The main complications of steatohepatitis and the frequency of distribution in the valley are gender characteristics

Complications	Male population (n=2484)		R	Female population (n = 2101)		General population (n = 4585)	
	NSGst (n = 279)			NSGst (n = 197)		NSGst (n = 476)	
	n	%		n	%	n	%
Ascites	107	38.4	>0.05	64	32.5	171	35.9
Spontaneous bacterial peritonitis	56	20.1	>0.05	40	20.3	96	20.2
Bleeding from varicose veins of the esophagus	65	23.3	>0.05	46	23.4	111	23.3
Portosystemic bleeding	75	26.9	>0.05	49	24.9	124	26.1
Liver failure	127	45.5	>0.05	82	41.6	209	43.9
Liver-kidney syndrome	70	25.1	>0.05	53	26.9	123	25.8
Liver cell cancer	71	25.4	>0.05	44	22.3	115	24.2
Total	571	100	>0.05	378	100	949	100
μ	82	14,36	>0.05	54	14.28	136	14.33
Gender difference	$\chi^2 = 0.004$ $S = 0.001$ $RR = 1.005$ $95\%CI = 0.731 - 1.381$ $P > 0.05$						

Note: μ is the arithmetic mean value; % are taken relative to the total number of Steatohepatitis

Complicated non-alcoholic steatohepatitis (ANSGst) is expressed in 7 different forms (ascites, spontaneous bacterial peritonitis, bleeding from esophageal varices, systemic porotic bleeding, liver failure, liver-kidney syndrome, hepatocellular carcinoma) and is detected with high frequency. In the 18-74-year-old population, the main complications of ANSGst are noted with the following frequency: ascites - 35.9% (in men - 38.4% and in women - 32.5%, $P > 0.05$), spontaneous bacterial peritonitis - 20.2% (from 20.1% in men and 20.3% in women, $P > 0.05$), bleeding from varicose veins of the esophagus - 23.3% (23.3% in men and 23.4% in women, $P > 0.05$), porosystemic bleeding - 26.1% (in men - 26.9% and in women - 24.9%, $P > 0.05$), Liver failure - 43.9% (men - 45.5% and women - 41.6%, $P > 0.05$), liver-kidney syndrome - 24.8% (men - 25.1% and women - 26, 9%, $P > 0.05$) and liver cancer - 24.2% (29.4% in men and 22.3% in women, $P > 0.05$).

In general, it was found that NSGst is characterized by the occurrence of dangerous complications in every fifth or fourth patient, observed with insignificant difference between men and women [$\chi^2 = 0.004$; $S = 0.001$; $RR = 1.005$; $95\% CI = 0.731 - 1.381$ $P > 0.05$]. Early detection and prevention conducting programs of ANSGst allows to eliminate from 20% to 43.9% of the population.

Table 3 and Figure 3 show the 20-year characteristics of age-related prevalence of NSG complicated with portal hypertension (PG) in the population of the valley in numerical analysis.

In the population of different ages, NSGst complicated by portal hypertension is defined in the general population in 2000-2020 with a significantly different frequency: in 18-29-year-olds - 20.0% and 11.1%, in 30-44 - 20.0% and 5.5 %, at 45-59 – 15.0% and 11.1%, at 60-74 – 25.0% and 5.5%.

In almost all age groups, there is a sharp and significant decrease in the type of NSGst complicated by PG in 20 years. This difference is especially noticeable at the age of 45-59 and 60-74 [$\chi^2=0.043$; $S=0.119$; $RR=1.533$; 95% $CI=0.354-5.026$; $P>0.05$].

NSGst complicated by portal hypertension in the population of men and women in 2000-2020 with a different frequency, depending on age, is defined as follows: 18-29 years old - 25.0% and 10.0%, from 0.0% and 12.5%; at 30-44 – from 18.7% and 10.0%, from 25.0% and 0.0%; at 45-59 – from 12.5% and 10.0%, 25.0% and 12.5%; At 60-74 – from 31.2% and 0.0%, from 0.0% and 12.5%. In almost all age groups, NSGst passing with PG is recorded with the same frequency of distribution and a significant decrease in 20 years [$\chi^2=6,629$; $S=0.507$; $RR=2.917$; 95% $CI=1.111-7.653$; $P<0.05$].

In general, the 20-year epidemiological description of NSGst is of great importance in improving the preventive and prognostic directions related to it.

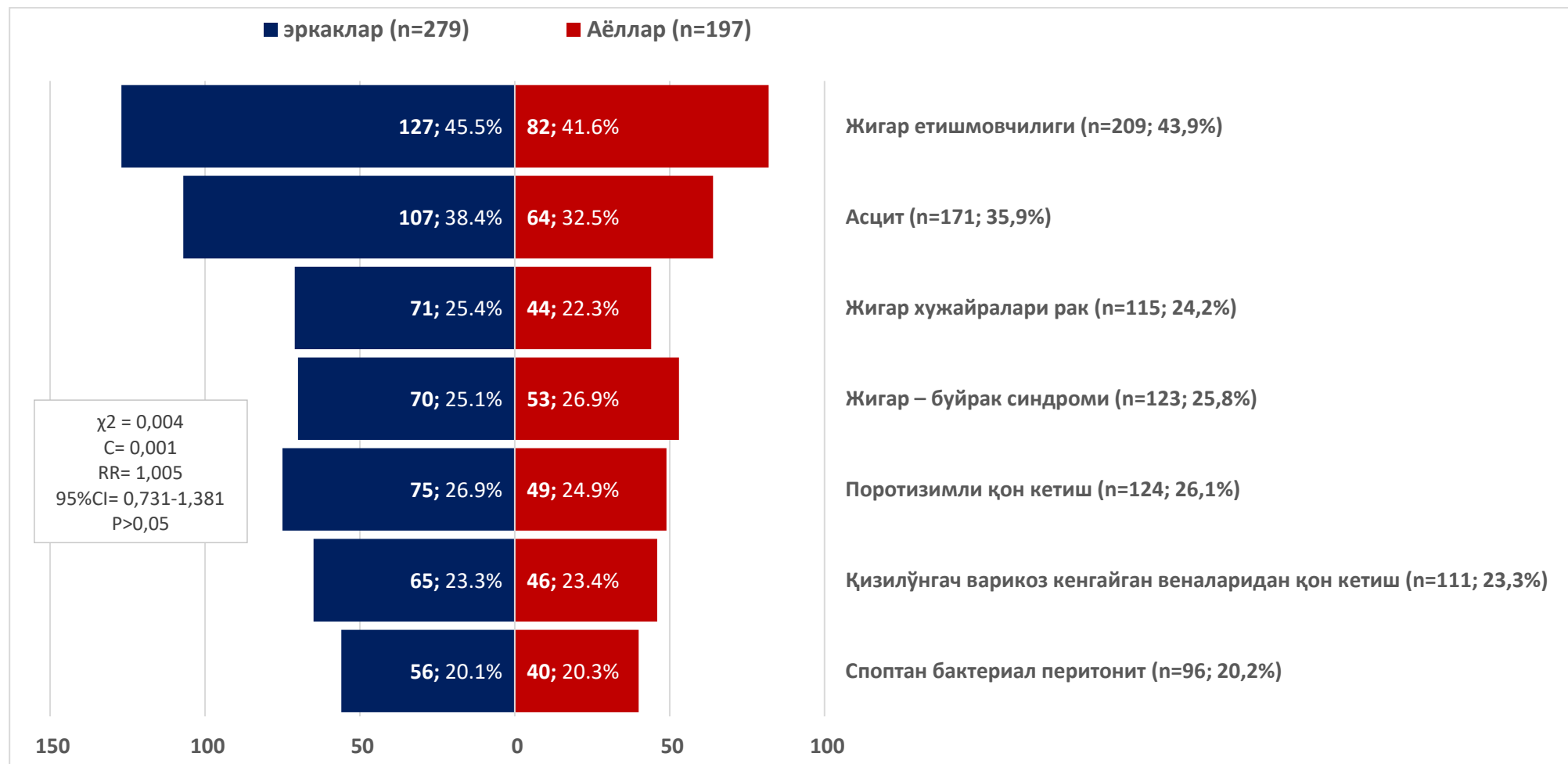


Figure 2. The prevalence of the main complications of steatohepatitis in valley conditions and gender differentiation

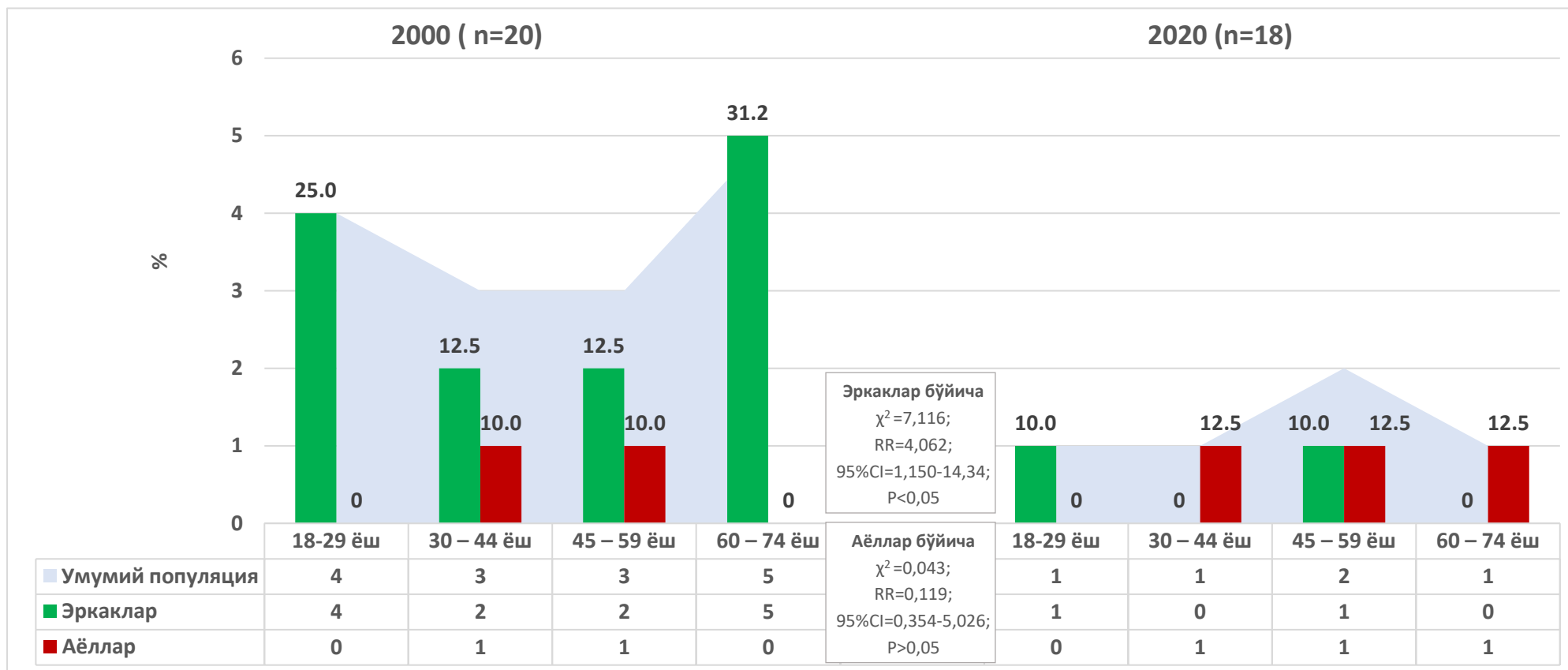


Table 3

Characteristics of frequency and 20-year dynamics of prevalence of non-alcoholic steatohepatitis complicated by portal hypertension in valley conditions

Years of inspection, age group	Male population			R	Women population			General population		
	N	NSGst			N	NSGst		N	NSGst	
		n	%			n	%		n	%
Year 2000:										
18-29	16	4	25.0	-	4	0	0,0	20	4	20.0
30-44		3	18.7	>0.05		1	25.0		4	20.0
45-59		2	12.5	>0.05		1	25.0		3	15.0
60-74		5	31.2	-		0	0,0		5	25.0
2020:										
18-29	10	1	10.0	>0.05	8	1	12.5	18	2	11.1
30-44		1	10.0	-		0	0,0		1	5.5
45-59		1	10.0	>0.05		1	12.5		2	11.1
60-74		0	0,0	-		1	12.5		1	5.5
2000-2020	$\chi^2 = 6.629$ $S = 0.507$ $RR = 2.917$ $95\%CI = 1.111 - 7.653$ $P < 0.05$				$\chi^2 = 0.043$ $S = 0.119$ $RR = 1.333$ $95\%CI = 0.354 - 5.026$ $P > 0.05$					

Note: the main manifestations of portal hypertension are splenomegaly, varicose veins of the esophagus and stomach, rectal veins, ascites and "Medusa's head".

CONCLUSIONS

1. According to the 20-year epidemiological monitoring, the prevalence of non-alcoholic steatohepatitis in the elderly population of the valley is 10.4%, with a significant difference, and it is confirmed that men (11.2%) prevail over women (9.4%). In the last 4 years, it has reached 4 times, representing a decreasing trend of 8.0% per year.

2. Risk factors of non-alcoholic steatohepatitis are determined by the specific prevalence frequencies and 20-year changes in the population of the valley: hypercholesterolemia - 33.3% (with an increase of 30.0%), hyperglycemia - 16.7% (with an increase of 11.7%), hypertriglyceridemia - 33.3% (with an increase of 6.6 times), smoking - 33.3% (with a decrease of 41.7%), hypodynamia - 61.1% (with an increase of 16.1%), nutritional factors - 72, 2% (with a decrease of 27.8%), excess body weight - 55.6% (with an increase of 20.6%) and arterial hypertension - from 55.6% (with an increase of 20.6%) confirmed non-alcoholic steatohepatitis show a relatively inconsistent epidemiological situation.

3. All risk factors of non-alcoholic steatohepatitis are confirmed in relatively high frequencies in the rural population compared to the urban population and are recorded with different frequency in different age groups: • smoking - 16.6% in young people, 11.1% in adults and 5.5% in old people; • hypodynamia - from 22.2%, 11.1% and 27.8%; • nutritional factors - from 22.2%, 22.2% and 27.8%; • excess body weight - from 16.6%, 21.2% and 16.6%; • arterial hypertension - from 22.2%, 11.1%

and 10.0%; dyslipidemia - from 15.0%, 22.4% and 35.3%.

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