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**Evaluation of Body-Mass Index Value of Alcohol User and
Smoker Infertile Men**

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Abstract

Infertility impress an approximative,15% of couples globally, mean at 48.5 million couples. Male factor is found to be nearly managing for 20-30% of infertility cases and contribute to 50% of cases overall. However, this number can not represent all the regions of the world. Indeed, on a global level, there is a lack of accurate statistics on rates of male infertility. Our report examines in Turkish population and reports rates of body mass index (BMI) values of alcohol user and smoker male individuals. Data from 308 infertile male patients were retrospectively reviewed. Patients with karyotype anomalies, Y chromosome microdeletions, and absence of vas deferens and / or seminal vesicles were excluded from the study. The patients were classified according to the BMI scores smoke and/or alcohol users were evaluated. Data from 308 infertile male patients were retrospectively reviewed. Patients with karyotype anomalies, Y chromosome microdeletions, and absence of vas deferens and / or seminal vesicles were excluded from the study. The patients were classified according to the BMI scores smoke and/or alcohol users were evaluated. General data were analyzed statistically by chi-square test in SPSS programme. Our calculated data showed that There was no statistically significant difference in BMI values between alcohol and cigarettes users and non-user group.

Keywords: Male infertility, alcohol use, smoking, BMI

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International Journal of Basic and Clinical Studies (IJBCS)**2018; 7(2): 61-65 Demirel G et all.****Introduction**

The increase in the rate of infertility has created serious concerns about human recruitment in recent years and it is known that there are many factors that cause the decrease of sperm quality (1). The amount of toxic substances exposed to developing industrialization, increasing population needs, depending on the needs of changing living styles is increasing day by day furthermore every toxic substance (alcohol, cigarettes, pesticides, insecticides, heavy metals, radiation, cosmetics, cleaning materials, pharmaceutical products, agents encountered in occupational exposures and all xenobiotics) that are becoming widespread in use affects all steps of the ecological system (2). The presence of dangerous agents is an important factor in the development of malformations in the male reproductive system (3). Lifestyle factors such as smoking, alcohol intake and drug use are also suggested as the most important factors responsible for the fall in sperm quality (4). Sperm are highly sensitive indicators of environmental, occupational and vital toxic exposure, and accordingly toxic effects in the individual are manifested as hormonal disorders (5). Some studies have suggested that there is a negative relationship between alcohol intake and sagittal quality (6). However, in some studies these findings were not confirmed (7). In this context, it is difficult to make comparisons between studies, as the use of alcohol as well as populations is also notable. We aimed to infertile males were classified according to the smoking and/or alcohol users and BMI values.

Material Methods**Study population and participants**

Semen samples of patients who applied to Biruni University for infertility treatment between 2016-2018 years were evaluated according to the WHO criteria and the obtained data were used in this study. Indications of couples for IUI infertility treatment were evaluated. who had an Intrauterine insemination (IUI) indication for infertility treatment of individuals aged 20-50 years was included in the study. Individuals identified smoking and alcohol use, especially those who followed only smoking, both smoking and using alcohol, and not both. Patients with karyotype anomalies, Y chromosome microdeletions, and absence of vas deferens and / or seminal vesicles were excluded from the study.

Ethics approval

Ethics approval was granted by the Biruni University Ethics Committee (2017/5-4). Participants were offered written information about the study and informed of the study hypothesis. Informed consent was obtained, with all participants signing a standardized consent form.

Statistical analysis

For the statistical analysis, Statistical Package for Social Sciences 15.0 (SPSS 15.0) program was used.

Student's t-test was used for comparison of descriptive statistical methods (Mean, Standard deviation) as well as for normal distribution of comparisons of quantitative data.

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[Body weight (kg) / height (m²)] formula was used in the calculation of Body Mass Index (BMI). The body mass indices from men measured at the clinic and from men who self-reported their BMI were assessed for difference by Khi-Square Test. The results were assessed at 95% confidence interval, $p < 0.05$.

Results

BMI was measured in 308 infertile men (Figure 1). The body mass indices from

measured and self-reported samples were not significantly different, i.e. the two subpopulations had an equivalent range of BMI data and therefore were considered one overall study population for the purposes of statistical analysis.

The median BMI was $25,42 \pm 4,42$ kg/m² and the BMI distribution across BMI categories is presented in Table I. No statistically significant differences or correlation in alcohol and cigarette use in relation to BMI were detected.

Table 1: BMI distribution across BMI categories

BMI	Smoker	Alcohol User
	n (%)	n (%)
Underweight	9 (7.0)	2(7.7)
Normal (healthy weight)	61 (47.3)	12(46.2)
Overweight	42 (32.6)	-
Obese Class I (Moderately obese)	16 (12.4)	-
Obese Class II (Severely obese)	1 (0.8)	-
p	0.169	0.222

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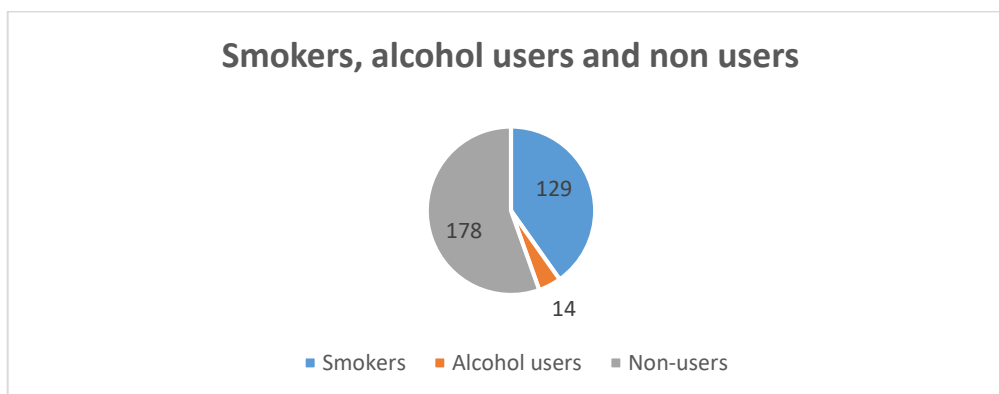


Figure 1: Number of smokers, alcohol users and non-users infertile groups

Discussion

We studied a non smoker- non alcohol user infertile population, a only smoking infertile population, an alcohol- user- only infertile population and a group where they used both with a total of 308 men.

There has been much published about smoking and alcohol intake influencing male fertility. Even so, there is no certain compromise about the effects of cigarette smoking and alcohol use on these consequences and therefore no generally putative guidelines (8).

The knowledge on the amount on alcohol and smoking may thus be under reported. However, there are more studies that found questionable or no negative effects on semen parameters from smoking (9). and especially alcohol using (10).

According to Gude; apart from alcohol, body mass index (BMI) and smoking negatively influence sperm concentration and motility ([23162368](#)). In a study, it was seen that

while alcohol had a negative influence on the fertilization rate, and positive influence was seen with cereal consumption, the number of meals per day, and consumption of fruits and cereals (11).

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