

## Alcohol use among students in Turkey: A systematic review study

Türkiye’de öğrencilerde alkol kullanımı: Sistematik bir derleme çalışması



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### Abstract

**Objective:** Alcohol consumption at an early age has many adverse effects on people’s health and others around them. This paper aims to reveal the level of alcohol consumption habits of students in Turkey and the effects of alcohol use through the Systematic Review.

**Methods:** Studies on alcohol use among students, using the PRISMA systematic review method, will be combinations of the keywords Alcohol, Student, Turkey and/or Addiction in Web of Science, Scopus, PubMed, Science Direct and TR Index databases between 7 December 2020 and 10 January 2021 were searched in the abstract, keyword and study name.

**Results:** As a result of the search, 402 studies were found initially. As a result of the repetitive studies and the examination of the titles and abstracts, 224 articles, the full text of which was reached, were examined in detail. As a result of the full text review, 212 articles were examined according to the inclusion criteria. According to the determined criteria, 85 articles were reached. In Turkey, where cultural diversity is rich, alcohol consumption has also been affected by this diversity and has led to differences in the frequency of consumption (4.4%-91.4%). In addition to the difference in the frequency of alcohol consumption, the effects of alcohol consumption among students were also quite high.

**Conclusion:** Physical, mental, and social impacts significantly affected the living conditions of people and people around them. It would be wrong to give the general status of alcohol consumption frequency in Turkey with a value through this systematic review study. With the effects of various factors, alcohol consumption and its impacts on health varied considerably, revealing that it is necessary to evaluate in smaller groups.

**Keywords:** Alcohols, Students, Turkey, Adolescent, Dependency

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## Öz

**Amaç:** Erken yaşta alkol tüketiminin insan ve çevre sağlığı üzerinde birçok olumsuz etkisi vardır. Bu makale, Türkiye'deki öğrencilerin alkol tüketim alışkanlık düzeylerini ve alkol kullanımının etkilerini Sistematik İnceleme yoluyla ortaya koymayı amaçlamaktadır.

**Yöntem:** Öğrenciler arasında alkol kullanımına ilişkin çalışmalar, PRISMA sistematik inceleme yöntemi kullanılarak 7 Aralık 2020-10 Ocak 2021 tarihleri arasında Alcohol, Student, Turkey ve/veya Addiction anahtar kelimeleri Web of Science, Scopus, PubMed, Science Direct ve TR Index veri tabanlarında birbirlerinin kombinasyonları olacak şekilde özet, anahtar kelime ve çalışma adı içerisinde taranmıştır.

**Bulgular:** Tarama sonucunda başlangıçta 402 çalışmaya ulaşılmıştır. Tekrar eden çalışmalar ile başlık ve özetlerin incelemesi sonucunda tam metnine ulaşılan 224 makale detaylı olarak incelemeye alınmıştır. Tam metin incelemesi sonucunda 212 makale dâhil etme kriterlerine göre incelenmiştir. Belirlenen kriterlere göre 85 makaleye ulaşılmıştır. Kültürel çeşitliliğin zengin olduğu Türkiye'de alkol tüketimi de bu çeşitlilikten etkilenmiş ve tüketim sıklığında farklılıklara yol açmıştır (%4.4-91.4). Alkol kullanım sıklığındaki farklılığa ek olarak, öğrenciler arasında alkol kullanımının etkileri de oldukça yüksektir.

**Sonuç:** Fiziksel, zihinsel ve sosyal etkiler, insanların ve çevrelerindeki insanların yaşam koşullarını önemli ölçüde etkilemiştir. Bu sistematik derleme çalışması ile Türkiye'deki alkol tüketim sıklığının genel durumunu bir değerle vermek yanlış olur. Alkol tüketiminin ve sağlığı etkilerinin çeşitli faktörlerin etkisiyle oldukça değişken olması, daha küçük gruplar halinde değerlendirilmesi gerektiğini ortaya koymaktadır.

**Anahtar Kelimeler:** Alkol, Öğrenciler, Türkiye, Gençlik, Bağımlılık

## INTRODUCTION

Excessive alcohol use causes an estimated 2.5 million deaths every year, with a significant proportion of young people. It can have devastating impacts on individuals and their families who have various alcohol-related problems and significantly affect community life.<sup>1</sup> Although alcohol use is a serious health problem, accounting for roughly 4% of all deaths worldwide and 5% of the global disease burden, required attention has not been paid to alcohol consumption and its problems for years.<sup>2</sup> In recent years, international awareness about the effects and harms of alcohol consumption has increased significantly, and it has started to

take a more important place in public health policies.<sup>3</sup> Since 2010, under the leadership of the World Health Organization, the fight against alcohol has gained significant momentum, and policy options and interventions to be followed in 10 target areas have been presented to member states.<sup>1</sup>

The time when individuals are introduced to alcohol is generally the teenage years including adolescence in which they undergo a psychologically turbulent period. Mostly in these years, alcohol consumption and smoking appear because alcohol is thought a supporting role in this turmoil and a sign of being an adult.<sup>4</sup> In this respect, a more suitable environment for alcohol

consumption appears in the years of youth.

The report “Global Status Report on Alcohol and Health” published by WHO also stated that Turkey does not have any national alcohol policy, with a lifetime alcohol avoidance rate of 89.1% and 93.1% for the past 12 months.<sup>5</sup> This systematic review study aims to provide an overview of the alcohol consumption among students, who may change this rate in the future, and to examine the effects of alcohol consumption. As a guide for the search strategy, the stated PICO criteria are discussed:

**P (Patient/Population):** Students in Turkey  
**I (Intervention/Exposure):** Alcohol consumption

**C (Comparison/Control):** Habits/behaviors

**O (Outcome):** Level of alcohol consumption and effects of alcohol use.

In this context, the study questions are formed as follows,

**Q1:** Can demographic factors be expressed as a determinant of alcohol consumption?

**Q2:** Does alcohol consumption have an impact on the health of students?

## METHODS

An important source for presenting evidence-based data, systematic reviews systematically explain why the authors include the studies they have reviewed in the literature and why the out-of-scope studies are not included in the study.<sup>6</sup> This study investigates the frequency and consequences of alcohol consumption among students in Turkey with the systematic review method.

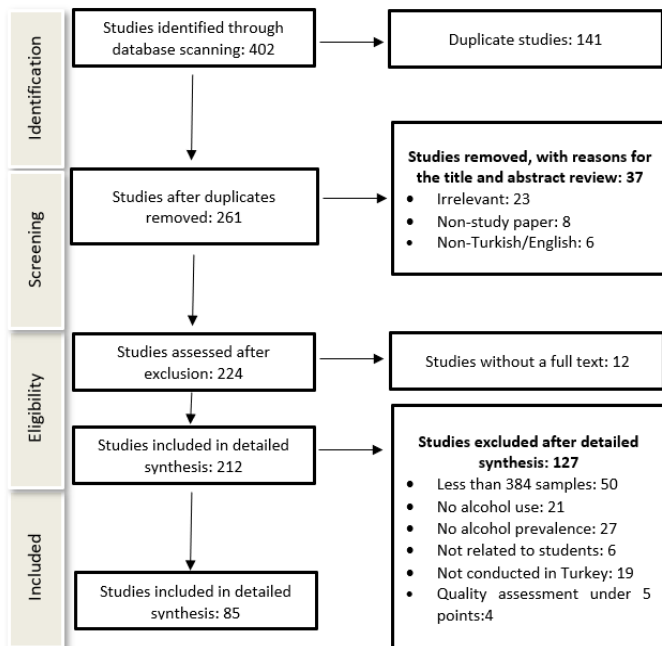
This systematic review study was conducted in accordance with the PRISMA statement, a

guide that sets standards for reporting results of systematic reviews, ensuring deemed transparency in the presentation of results and between reviews.<sup>7</sup>

## Screening Strategy

Web of Science, Scopus, PubMed, Science Direct, and TR Index electronic databases were scanned through Ankara University's internet access network. Target keywords were scanned according to Medical Subject Headings (MESH). Alcohol, Student, Turkey, and/or Addiction keywords were scanned between December 7, 2020, and January 10, 2021. These words were scanned in the relevant databases in a way that they are the combinations of each other in the summary, keywords, and study name.

The inclusion criteria for the study are determined that it has to be related to students, to be a study paper, to include at least 384 samples (specified that 384 samples are required to generalize and compare the results of a study paper), to specify a frequency for alcohol consumption, to be conducted in Turkey, to be written in English/Turkish, and to have a full-text, while the exclusion criteria is determined that it has to be a review, qualitative, or descriptive study.<sup>8</sup> After examining the titles and abstracts of the studies obtained from the electronic databases, the studies accessed by the inclusion criteria were included in the study (Figure 1). As a result of the screening, 85 studies that were determined to be suitable for the criteria were included in the study and were evaluated within the scope of the World Health Organization's definition of health.<sup>9</sup>



**Figure 1.** The Inclusion of Studies

In this study, evaluations were made by considering the values in Table 1 for the quality evaluation of the studies. Each article was evaluated separately by each author, and the joint decisions of the 3 authors were applied exactly. According to the evaluation criteria, 4 articles with a score of 5 or less were excluded from the study, while the remaining 65 articles were found to have a score of 8 and above. When there was a difference in the evaluation score by the authors, 2 authors convinced the other author about the results and added and

**Table 1.** Guidelines for critiquing systematic reviews

1. Did the study clearly state the aim and problem of the study?
2. Did the study appropriately answer the questions?
3. Were the concepts in the study clearly defined?
4. Were the characteristics of the sample adequately explained?
5. Was the number of samples enough?
6. Were the materials and methods used appropriate for the study?
7. Was the equipment used valid and reliable?
8. Were the findings clearly and appropriately organized?
9. Were all the significant results discussed?
10. Was the discussion consistent with the findings?
11. Were the results reported in summary?
12. Were the limitations reported?

Source: <sup>10</sup>

subtracted. The results of the study were given in two sections as descriptive and quantitative results, and findings revealing the impacts of alcohol consumption.

## Evaluation of Methodological Quality of Studies

In this study, “Guidelines for critiquing systematic reviews” maintained in Table 1 were used for the assessment of the quality of the studies.<sup>10</sup> These criteria provide a general evaluation of the aims, methods, characteristics of the sample, analysis of findings, results, and discussion of the study. The criteria consisting of 12 items, each item with 1 point, text reviews were carried out by the researchers. Each study was assessed separately by the researchers on all the criteria, and “1 point” was given if the criteria fully met each item, and “0 points” was given if not.

## RESULTS

### Scan Findings

In this part, descriptive information and general results of the studies included in the analysis are given. At first, 402 studies were

found. After examining the duplicates, titles, and abstracts, 224 articles whose full texts were found were examined in detail. As a result of the full-text review, 212 articles were examined according to the inclusion criteria. Finally, 85 articles given in Table 4 were included in the study.

### Features of Studies

Studies evaluated within the scope of systematic review were carried out in 31 different provinces of Turkey. In addition to these provinces, it was found that there are studies conducted in Turkey in general. When evaluated by province, 17 (20%) of the studies were conducted in Istanbul. When the education level at which the studies were conducted was examined, it was found that 37 (43.6%) were at high school and below, while 48 (56.5%) were at the university level. When the included studies were evaluated yearly, it was seen that the first study was conducted in 1998; most studies were conducted in 2014 and 2019 with 10 (11.8%) studies, and the percent of studies intensified especially after 2013 (62.4%).

The sample size of 30 and above that the data will approach the normal distribution is an important assumption for evaluation and analysis.<sup>11</sup> It is not suitable for using a statistical test, both because it does not satisfy the assumption mentioned and because there is irregularity between groups or within each. In this direction, a statistical test could not be used to determine the differences in the mean frequency of alcohol use among groups in the systematic review study. Although a statistical test was not performed, alcohol use in the past month ( $33.21 \pm 19.28$ ), lifetime alcohol use ( $46.27 \pm 20.69$ ), study-specific alcohol use ( $32.69 \pm 19.86$ ) at the university level was higher than high school and below level *Turk J Public Health* 2023;21(1)

(Table 2).

**Table 2.** Average Alcohol Use by Education Level

	Ed. Level	Number of Studies	Ratio Average	Std. Dev.
Alcohol Use in the Past Month	High School and Below	9	14.46	10.59
	University	8	33.21	19.28
Lifetime Alcohol Use	High School and Below	18	30.33	12.35
	University	6	46.27	20.69
Study-Specific Alcohol Use	High School and Below	17	14.89	13.99
	University	41	32.69	19.86

\* There are some studies in which more than one result (study-specific alcohol use, lifetime alcohol use, etc.) is given in the study.

Similarly, it was observed that alcohol use in the past month ( $22.64 \pm 13.62$ ), lifetime alcohol use ( $36.76 \pm 15.31$ ), study-specific alcohol use ( $29.5 \pm 20.42$ ) in provinces located in Ankara and its west is higher than the samples in the provinces located in the east of Ankara (Table 3).

**Table 3.** Average Alcohol Use by Location

	Level	Number of Studies	Ratio Average	Std. Dev.
Alcohol Use in the Past Month	Ankara and West	11	22.64	13.62
	East Ankara	4	8.92	3.56
Lifetime Alcohol Use	Ankara and West	17	36.76	15.31
	East Ankara	5	21.21	9.48
Study-Specific Alcohol Use	Ankara and West	33	29.5	20.42
	East Ankara	19	22.84	21.32

\* There are some studies in which more than one result (study-specific alcohol use, lifetime alcohol use, etc.) is given in the study.

### The Impacts of Alcohol Use

Regarding the alcohol level of students in Turkey; One study found that the alcohol use levels of students in Turkey were below the national average<sup>12</sup>, another study revealed

that it was above the country average<sup>14</sup>, while another study revealed that it increased each year among students<sup>15</sup>.

According to one study<sup>16</sup>, 4.8% of alcohol users had their first alcohol experience before the age of 11, 12.3% between the ages of 12-14; 58.6% between the ages of 15-18; another study<sup>17</sup> stated that 12.5% of the students who said that they tried alcohol for the first time were at the age of 11 and below; another study<sup>18</sup> stated the mean age of starting to use alcohol was 12.9 ( $\pm 2.17$ ); another study<sup>14</sup> stated that 12.4% of alcohol users were under the age of 10, 66.1% between the ages of 11-15, 21.5% 16 years and older. Another study<sup>19</sup> reported that the age of trying and using alcohol was 17.87 ( $\pm 2.54$ ).

Health was defined as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” by the WHO in 1948.<sup>9</sup> The results in this study were examined under the themes of physical health, mental health, and social health stated in the definition of the World Health Organization.

### **Results Concerning Social Health**

Within the scope of the study, 29 articles containing findings related to social health were reached in line with the inclusion criteria. The researchers<sup>20</sup> in a study found that the likelihood of alcohol consumption rose 2.38 times among students whose mothers had received primary education or higher and 2.4 times among those whose fathers had received secondary education or higher. It was found that the frequency of alcohol use was higher in children who lived in the city center, had a private room, had a good social status according to their father’s occupation,

had a mother with a profession, and whose parents were older than 40 years. It was found that 40.6% of the students who were exposed to violence by their parents used alcohol and that the alcohol use of the students whose parents used alcohol was higher.<sup>21</sup> It has been revealed that alcohol use is higher in students who live with their families or whose parents are at least high school graduates.<sup>22</sup> In another study<sup>23</sup>, it was found that students living with both parents had lower alcohol use, while another study found that family pressure did not affect students’ alcohol consumption.<sup>24</sup> It has been stated that alcohol use is associated with a strong bond with parents and not related to financial/economic problems of the family.<sup>25</sup> Students whose parents smoke or drink alcohol, live alone or with friends, and do not have adequate parental support tend to use more cigarettes and alcohol.<sup>26-27</sup> Alcohol use decreases as parental attitudes change from authoritarian to democratic.<sup>28</sup> It has been shown that alcohol use is higher in those whose close friends use alcohol.<sup>29</sup> In a similar study, it was stated that alcohol use is higher in students who attach less importance to religion, have a positive peer attitude towards alcohol, and use peer alcohol.<sup>30</sup> It revealed that those who spend more time with their peers tend to use more alcohol.<sup>27</sup>

One study<sup>31</sup> stated that the causes of alcohol use were psychological problems, entertainment, imitation, and curiosity, while the other study<sup>14</sup> found that the causes of alcohol use were special occasions, enthusiasm-curiosity-experiment, friend-environment, sadness-distress-depression, and no or no specific reason.

While many studies<sup>12-13,17,26-27,32-38</sup> have revealed that alcohol use is higher in male students

than in females, the reason is that alcohol use is a part of student life and facilitates socialization. stated that the idea is common in men.<sup>38</sup> Another point of view stated that the reason why alcohol use is less common in women than in men is cultural factors.<sup>30</sup>

Studies have shown that alcohol use is associated with drug use.<sup>39-42</sup> In addition, alcohol use before or during sexual intercourse causes risky sexual behaviors<sup>15</sup>. According to many studies <sup>16,29-30,32,36,43-44</sup> tobacco use has been determined to be a risk factor that increases alcohol use. As alcohol use increases, energy drink consumption increases.<sup>45-46</sup>

While it has been stated in many studies that there is a relationship between economic status and alcohol use; some stated that students with good economic status consumed more alcohol<sup>21,44,48</sup>, while others stated that students with poor economic status consumed more alcohol.<sup>27,47</sup> Similarly, it is stated that alcohol use in private schools is higher than in public schools.<sup>47</sup> It is also among the findings that those living in cities use 1.46 times more alcohol than those living in rural areas.<sup>16</sup>

### Results Concerning Mental Health

Within the scope of the study, 17 articles containing mental health findings were reached in line with the inclusion criteria. Studies<sup>49-52</sup> have found that alcohol use significantly increases depression and its symptoms. In the study conducted research<sup>27</sup>, it was stated that alcohol use was higher in students with older age, lower classes, low income, low belief, higher depression, irritability, antisocial characteristics, and lower self-esteem.

One study<sup>53</sup> found that alcohol users increased

self-harm behavior that did not include suicidal ideation, and another study<sup>54</sup> found that it increased suicidal ideation. Similar to these studies, it was stated that the health perception of students who did not consume alcohol was higher.<sup>55</sup>

While one study<sup>56</sup> reported that 47% of alcohol users were prone to physical violence with high self-esteem and self-efficacy, another study<sup>57</sup> found that 28% of alcohol users were prone to physical violence, 73.2% to verbal violence, and 93% to emotional violence, stated that they were exposed. Findings of other studies on violence<sup>58-60</sup> indicated that alcohol users had higher levels of anger, passive aggression, overt aggression, and lower anger control than non-drinkers. It has been reported that alcohol users have lower self-efficacy scores.<sup>14</sup> Similarly, it has been revealed that students with high alcohol consumption have a friend who has low academic success, has received disciplinary punishment, is absent, got into trouble with the police, uses alcohol or any other substance.<sup>37</sup>

Studies have found that alcohol use, as another risk, significantly increases the risks of internet addiction.<sup>61-64</sup> Another study found that alcohol users had higher scores for self-actualization, exercise, interpersonal support, and health-promoting lifestyles than non-drinkers, although the negative consequences of alcohol use were quite dominant.<sup>65</sup>

### Results Concerning Physical Health

Within the scope of the study, 11 articles containing findings related to physical health were reached in line with the inclusion criteria. Studies have found that alcohol use significantly increases the risks of premenstrual syndrome.<sup>66-69</sup> Other studies

have found that alcohol use significantly increases the risk of attention deficit.<sup>70,63</sup>

Alcohol use also has important effects on nutritional behavior.<sup>71-72</sup> Studies have shown that excessive salt consumption and night eating syndrome are higher in alcohol users than non-drinkers.<sup>73-74</sup>

Alcohol use also has an impact on lifestyle. While one study<sup>75</sup> reported a relationship between piercing and tattooing and alcohol use, another study<sup>76</sup> found higher rates of unintentional injuries and accidents in alcohol users than non-drinkers.

## DISCUSSION

85 papers on alcohol use among students in Turkey were included in this systematic review. These publications indicate that university students consume alcohol above the typical alcohol frequency rates, and it has many adverse effects on the health of the students.

These studies carried out on students reveal quite striking results. In many countries located in the Americas, Europe, and the Western Pacific, it was stated that students start using alcohol before they turn 15, and the frequency of alcohol use among 15-year-old students is between 50-70%<sup>5</sup>. According to the one study<sup>77</sup> on 1686 university students from 4 countries, 86.5% of students in Slovakia, 79.4% of students in Ukraine, 58.8% of students in Romania, and 92.2% of students in Poland consumed alcohol at least once in their lifetime. Another study<sup>78</sup> carried out on 9632 university students in Norway found that 92.6% of the students stated they used alcohol.

Many cultures adhere to religious values to escape natural phenomena, diseases, and possible bad incidents. These values regulate people's daily life and constitute necessities and prohibitions, and alcohol consumption is one of these prohibitions. It is stated between Ayat 90 and 91 of Surah Al-Ma'idah in the Qur'an that alcohol is a sinful and prohibited substance for Muslims.<sup>79</sup> The results of researches reveal that religious values are an effective factor in alcohol use.<sup>80-81</sup> The study conducted with 1837 students in Lebanon found that a lesser portion of Muslim (43.8%) students used alcohol compared to Christian (87.5%) and Druze (67.4%) students in their lifetime.<sup>82</sup> In another study investigating the alcohol consumption frequency among students in the USA, it was found that 46.6% of the Muslim students consumed alcohol, while 80.7% of the non-Muslim students consumed alcohol.<sup>83</sup> In addition, according to another study conducted in the USA, it was determined that 49.2% of Muslim students consumed alcohol in the past year.<sup>84</sup>

Because a significant part of Turkey's population consists of Muslims, it is vital to compare with Muslim countries. The study indicates there are no standard rates for alcohol use, and there are significant differences by education level and region and have regional differences. According to the one study<sup>33</sup> carried out on high school students in Sivas province, while 4.4% of the students used alcohol, in another study<sup>85</sup> on university students in Eskişehir, 91.4% of the students stated that they used alcohol. For the included studies, it was found that the mean alcohol use prevalence of the university students (33.21% alcohol use in the past month, 46.26% lifetime alcohol use, 32.69% study-specific alcohol use) was higher than



the mean of high school and lower students' alcohol use (14.46% higher for alcohol use in the past month, 30.32% for lifetime alcohol use, and 14.89% for the study-specific alcohol use). It was also determined that it was much higher than the rates for Turkey (10.9% higher for lifetime, 6.9% for the past 12 months).<sup>5</sup> When examined in the context of regional differences, another demographic factor, it was found that there was regional alcohol use prevalence. For the capital city of Turkey, Ankara, and the provinces located in its west, the prevalence of alcohol use for each period surveyed (22.64% for alcohol use in the past month, 36.76% for lifetime alcohol use, 29.5% for study-specific alcohol use) was higher than the periods in the provinces located in the east of Ankara (8.92% for alcohol use in the past month, 21.21% for lifetime alcohol use, 22.84% for study-specific alcohol use). In the context of the study question 'Can demographic factors be expressed as a determinant of alcohol consumption?' gender, educational status, geographical location, parental involvement in child's education, parent and peer attitudes, exposure to violence, economic status, tobacco use, religion, culture, psychological problems can be a determinant of the prevalence of alcohol consumption. Considering the cultural impacts of alcohol use<sup>5</sup>, regional planning of interventions is worthwhile.

Many studies<sup>86-88</sup> revealed that alcohol consumption could have various adverse consequences, and in particular, Centers for Disease Control and Prevention<sup>89</sup> stated that excessive alcohol consumption in the short and long term might cause the development of chronic diseases and other serious problems.

## CONCLUSION

The studies examined within the scope of this systematic review, in accordance with the effects of alcohol use on health and physical, mental, and social health themes that constitute general health concept, revealed that alcohol use and its excessive use significantly and adversely affects the risk and symptoms of depression, self-harm, suicidal ideation, violence, anger, uncontrolled behaviors, internet addiction, risk of premenstrual syndrome, attention deficit, and diet.

When the results of the studies are examined, alcohol use in the past month ( $33.21 \pm 19.28$ ), lifetime alcohol use ( $46.27 \pm 20.69$ ), study-specific alcohol use ( $32.69 \pm 19.86$ ) at the university level was higher than high school and below level.

When the results of the studies are examined, studies conducted in Ankara, the capital city of Turkey, and in cities located in the west of Ankara, alcohol use in the last 1 month ( $22.64 \pm 13.62$ ), lifetime alcohol use ( $36.76 \pm 15.31$ ), study-specific alcohol use ( $29.5 \pm 20.42$ ) is higher than the studies conducted in cities located east of Ankara.

It has been observed that alcohol use has important effects not only on the physical health of students, but also on their social and mental health.

## Study Limitations and Suggestions for Further Studies

This study is limited to study papers carried out on students in Turkey, the full text of which could be scanned on the Ankara University internet access network between December 7, 2020, and January 10, 2021. Books, book

chapters, thesis, reports, and review articles on alcohol consumption among students in Turkey were excluded from the scope of the study. Statistical analysis could not be performed as the number of studies that would be the subject of this study could not be accessed in line with the assumptions.

The results of this systematic review revealed that the alcohol problem among students in Turkey is notable. While this study focuses on the prevalence and impacts of alcohol consumption, episodic drinking is not in the scope of the study. We believe that inclusive studies on episodic drinking are required in

further studies. Alcohol use prevalence rates obtained in systematic review studies differ significantly, so meta-analysis to be conducted in this subject may not yield correct results. The conditions in Turkey will become more comparable with comprehensive systematic review studies by including international studies. There is an increasing awareness about addictive substances in primary, secondary, and high school with the Addiction Prevention Training Program.<sup>90</sup> Conducting this study by including university students according to the region and education level where alcohol consumption is more common will be much more fruitful.

**Table 4.** Included Studies and Alcohol Frequencies

Author	1 month (%)	1 year (%)	Lifelong (%)	At Study (%)	Author	1 month (%)	1 year (%)	Life-long (%)	At Study (%)
Kara et al. (2003)				66.4	Göksan Yavuz et al. (2015)				16.4
Metintaş et al. (1998)			54.4		Uzun et al. (2016)				34.2
Açıkgöz et al. (2017)				37	Tekin and Öner (2020)				19.3
Açıkgöz et al. (2018)				37	Aktaş (2019)				25.4
Akvardar et al. (2003)	26.2	39.9	46.1		Tuğut and Bekar (2008)				12
Alikaşifoğlu et al. (2007)	5.68		18		Türkleş et al. (2008)				2.8
Altay et al. (2014)				10.6	Elkin and Karadağlı (2016)				25
G. Arslan et al. (2009)				36.7	Güngör et al. (2013)				21
H. N. Arslan et al. (2012)	13.8		26.1		Önler et al. (2019)		24.5		44.3
Arslantaş et al. (2018)				22.5	Keskinoğlu et al. (2006)				20.2
Atalay et al. (2018)				20.1	Doğan and Ulukol (2010)				10.5
Atlam et al. (2017)	46.2		62.4		Vaңçelik et al. (2006)				11.9
Ay et al. (2012)				33.1	Vaңçelik et al. (2007)				11.9
Aygun and Yıldırım (2019)				16.2	Gümüş et al. (2012)				19.6
Bakar et al. (2014)			66.2		N. Gündüz et al. (2019)				25.5
Balcı et al. (2015)				28	Karataş et al. (2015)				7.6

**Table 4.** Included Studies and Alcohol Frequencies

Canbaz and Terzi (2018)	9.4			Savcı et al. (2006)		27
Çavdar et al. (2016)	38	54		Evren et al. (2014e)		34.2
Çelik et al. (2019)	13			Görgülü et al. (2016)		30.1
Çorapçıoğlu and Ögel (2004)		1998: 30 2001: 45.1		S. Uzun and M. Kelleci (2018)		6.8
Dayı et al. (2015)	41.8	55.5	60.8	Gürbüz et al. (2018)	13	
Deveci et al. (2010)			26.9	A. Gündüz et al. (2019)		62.6
Evren et al. (2014b)			35	Hidroğlu et al. (2013)	21	31.3
Evren et al. (2014a)			35	İlhan et al. (2008)		34.1
Evren and Evren (2015b)			35	Işık et al. (2016)		20.9
Evren et al. (2014c)			35	Karadoğan et al. (2018)		59.7
Evren et al. (2014d)			35	Karatay and Baş (2019)		60.2
Hızal et al. (2013)			6	Kulak et al. (2019)		44.6
Tanrıkulu et al. (2009)			24.7	Mergen et al. (2009)	2.4	2.4
Özyurt and Dinç (2006)			11	Metin et al. (2015)		12.7
Korkmaz et al. (2013)			25.1	Nacar et al. (2014)		19.4
Yıldırım et al. (2012)			6.9	Öksüz and Malhan (2005)		76
Aslan et al. (2006)			3.3	Orak and Solakoğlu (2017)	13.3	
Filiz (2007)	44.2		91.4	Özcan and Özcan (2002)		13.6
Alaçam et al. (2015)			35.9	Özgür İlhan et al. (2008)	65	63.3
Akkuş et al. (2017)			7.9	Öncel et al. (2011)		66.4
Güler et al. (2009)			4.4	Özbay (2008)		42
Erdamar (2014)	23		6.8	Öztaş et al. (2018)		18.9
Demirbaş et al. (2016)			34.1	Öztekin et al. (2017)	24.5	38.6
İnanđı et al. (2009)	6.3	9.5	30.6	Palancı et al. (2009)		6
Şaşmaz et al. (2006)	6.2		24.5	8.5	Pumariega et al. (2014)	32.5
Seva et al. (2019)			56.2	Semerci et al. (2018)	8.3	11.4
Sönmez et al. (2016)			24.6			21.1

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