

# Adolescent drug misuse in the Canton of Sarajevo

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## Introduction

Adolescents are commonly considered to be a population group which is prone to drug misuse and abuse. According to the National Institute on Drug Abuse (2014), the most frequently abused medicines among teens are amphetamines, prescription painkillers, cough medicines, sedatives, and tranquilizers. The most prevalent reasons for drug misuse in adolescents are stress, fatigue, boredom, curiosity, increasing their reputation, or simply to feel good or, at least, better (Butorac et al., 2011).

## Materials and methods

An original questionnaire was designed for research purposes, with open-ended and closed-ended questions. Participants were informed with the purpose of the research and their rights regarding the research. The survey was conducted online, via the Google forms platform.

### Inclusion criteria

The age of the participants was between 11 and 21 years old

All of the participants reside in the Sarajevo Canton

Data was obtained and analyzed from 444 questionnaires that met the inclusion criteria. Statistical analysis was done using the methods of descriptive and inferential statistics, using Microsoft Excel 2010 and IBM SPSS Ver. 23.0, computer programs.

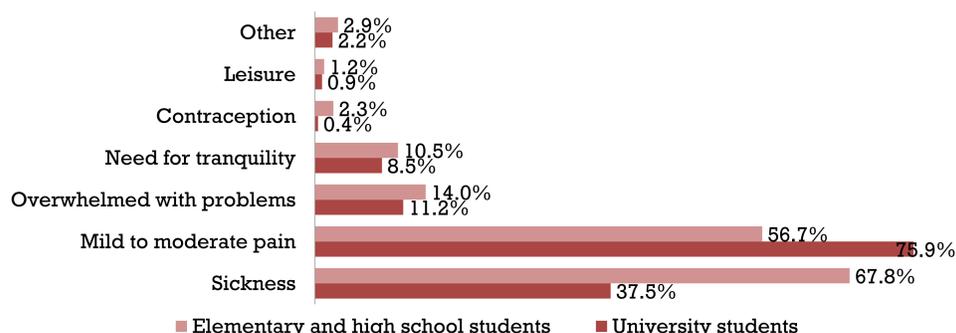
## Results and discussion

A total of 444 participants were included in the study, of which 122 (27.5%) were males and 322 (72.5%) were females. The participants were divided into two subgroups: elementary and high school students; and university students. Out of 444 participants, 202 (45.5%) were elementary and high school students, while 242 (54.5%) of participants were university students.

The prevalence of benzodiazepine use was 7.1%, which is a bit higher than the European average of 5.6% reported by Perlmutter et al. (2018). Among students in Zadar, the most commonly used drugs were non-opioid analgesics and anxiolytics, but also antidepressants, which was not the case with adolescents in Sarajevo (Butorac et al., 2011).

Out of 352 participants who have stated which drugs they have been using, 81 (23.0%) participants used the same generic drugs under different brand names. The most frequent of these was paracetamol, and some participants used 4-5 different medicines, all of which contained paracetamol. Lee et al. (2017) stated that the participants within their study had the lowest confidence in answering healthcare providers whether the medication they were using contained paracetamol.

### Most common reasons for drug use



**37.7% of the participants who exclusively use OTC drugs do not read the PIL**

What is concerning is that out of 106 participants who exclusively use OTC drugs, 40 (37.7%) participants do not read the Patient Information Leaflet (PIL). Moreover, out of 49 participants who self-medicate, without consulting their doctor or pharmacist, 20 (40.8%) do not read the PIL. One would expect that these groups would have the highest prevalence of checking drug use instructions, since they have not consulted with medical professionals, but within this cohort they had the lowest prevalence of reading instructions. This prevalence was substantially higher than the 10.1% reported by Lee et al. (2017).

**11.7% participants who have experienced side effects have not reported them to anyone, including their family**

Out of 271 (67.9%) participants who answered whether they have had drug related side effects, 60 (15.0%) participants stated they have experienced side effects, while 68 (17.0%) participants were not sure. Gualano et al. (2014) have reported the side effect prevalence of 31.1% for women and 19.6% for men, which is a somewhat higher prevalence than in this research, but it has to be taken into account that 17% of participants were not sure if they have had side effects, thus the prevalence might be closer to the one reported by Gualano et al.

**22.2% of the participants had an increased risk of potential drug-drug interactions**

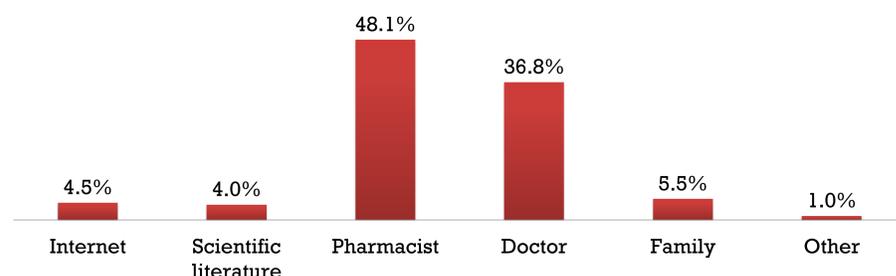
Out of 398 participants who stated whether they have concurrently used different drugs, 126 (31.7%) stated they had used 2 or more drugs simultaneously. Out of 90 participants who have stated which drugs they have used, 20 (22.2%) participants had increased the risk of potential drug-drug interactions (DDIs). Qato et al. (2018) have also reported the use of combinations with potential major DDIs of almost 20% among adolescent girls.

**Out of 28 participants who drank alcohol, only 1 participant was not under the risk of drug-alcohol interaction**

Out of 399 participants who answered whether they drink alcohol with drugs, 35 (8.8%) participants have drunk alcohol at least once while using drugs. A total of 28 participants have stated which drugs they were using with alcohol. Most frequently used drugs were non-opioid analgesics (67.9%), benzodiazepines (17.9%), antibiotics (14.3%) and antiulcer drugs (10.7%).

A total of 191 (48.1%) participants expect the pharmacist to be their main source of drug information, 146 (36.8%) expect the doctor, 22 (5.5%) their family, 18 (4.5%) the Internet, 16 (4.0%) scientific literature, 4 (1.0%) the other sources. Lee et al. (2017) have also reported the pharmacist to be the main source of drug information, followed by parents, PIL, other medical professionals, teachers, and friends.

### Who do you expect to be the main source of drug information?



## Conclusion

The adolescents incorporated in this study were under severe risks of drug side effects, drug-drug interactions, drug-alcohol interactions, developing tolerance and addiction, overdose, and even death, due to their reckless, uncontrolled and excessive misuse and abuse of drugs. Nevertheless, if taken into consideration that 85% of adolescents expect the medical professionals to be the main source of drug information, it is up to these professionals, especially pharmacists, to advise adolescents on appropriate drug use and forewarn them on potential dangers of drug use.

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