FATAL CONSEQUENCES OF THE USE/ABUSE OF PSYCHOACTIVE DRUGS

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\textbf{Key words:} prescription of psychoactive drugs, drug related deaths, use/abuse, fatal intoxication, autopsy, toxicological analysis.

\textbf{Objective} - the aim of the work was to ascertain occurrence of fatal intoxication caused by psychoactive drugs prescription in autopsy material of Bratislava forensic medical examination.

\textbf{Materials and methods.} The analysis of all cases of death in consequence of the overdose of the prescribed psychoactive drugs according to the results of autopsy at Bratislava forensic medicine workplaces within the period of the years 2001 - 2017 was performed.

\textbf{Results.} During the monitored period the criteria of inclusion coincided with 114 cases of fatal intoxications caused by psychoactive drugs prescription. Males comprised 59\% of all cases.

The age category over 35 years represented 81\% of cases. Benzodiazepines were the most frequently detected as a main substance in 46\% of cases. Combination with ethanol was found in 39\% of cases. In Bratislava region, 73\% of the deaths were found. Suicide was detected in 67\% of the cases, 55\% of the deaths occurred in the domestic environment.

\textbf{Conclusion.} The results of the analysis point to a high risk of benzodiazepine use/abuse, possibly combined with ethanol.

\textbf{Key words:} лекарственные психоактивные средства, смерть, связана с употреблением психоактивных веществ, употребление/злоупотребление психоактивными средствами, смертельная интоксикация, аутопсия, токсикологический анализ.

\textbf{Цель работы} - оценка летального исхода, вызванного рецептурными психоактивными веществами, по результатам судебно-медицинской экспертизы тел умерших в г. Братислава.

\textbf{Материал и методы.} Проводили анализ всех случаев смерти, что наступила в случаях передозировки психотропными препаратами, по результатам судебно-медицинской экспертизы тел умерших в г. Братислава в период с 2001 по 2017 год.

\textbf{Результаты.} В период мониторинга критерии включения совпали с 114 случаями смертельной интоксикации, вызванной рецептурными психоактивными средствами. Мужчины составляли 59\% всех случаев. Возрастная категория свыше 35 лет составляла 81\% случаев. Чаще всего (в 46\% случаев), как основное вещество, которое повлекло отправление, определяли бензодиазепины. Комбинация с этанолом встречалась в 39\% случаев. В Братиславском регионе обнаружено 73\% смертей. 67\% случаев составляли самоубийства, в 55\% случаев смерть возникла в бытовых условиях.

\textbf{Вывод.} Результаты анализа указывают на высокий риск использования/злоупотребления бензодиазепинами, возможно, в сочетании с этанолом.
Introduction

Consumption of prescription psychoactive drugs in Slovak Republic has increased significantly in recent years [1,2]. Their use/abuse represents a serious health and social problem [3,4]. Analysis of its fatal consequences is one of the essential indicators of the seriousness of the problem.

The goal of the work

Aim of the work is to present results of retrospective-prospective analysis of cases of direct psychoactive drugs prescription related with deaths in the period of years 2001 - 2017 in autopsy material of Bratislava forensic medicine workplaces.

Materials and methods

The study included all those deceased who died in relation to prescription psychoactive drug use / abuse in the territory of the Bratislava and Trnava regions (West Slovakia), what is a catchment area with approximately 1.2 million of inhabitants, which represents more than one fifth of the population of Slovakia, and were submitted to medico-legal autopsy and toxicological investigation at the Institute of Forensic Medicine of the Faculty of Medicine of Comenius University and the Institute of Forensic Medicine of Health Care Surveillance Authority in Bratislava within seventeen-year period of the years 2001 - 2017. Considering collected data obtained from autopsy reports, laboratory investigations, police reports and health documentation the cases were assessed according to occurrence of cases in particular years, sex, age, drugs detected, cause of death, external cause of death, place and district of death and availability of case history. Statistical analyses were made by means of SPSS software. The graphical presentation of the results was realized using Microsoft Office Excel 2016.

Results and discussion

During the monitored period, 15,737 autopsies were carried out in the mentioned workplaces. The criteria matched 114 cases - 0.7% of all performed autopsies. The incidence of cases in individual years ranged between 2 (2%) in 2017 and 14 (12%) in 2009 (Graph 1).

Evaluating the incidence of deaths in particular months of the year, the lowest incidence was observed in September - 3 (3%), with the highest incidence of deaths in July - 17 (15%) (Graph 2).

Males comprised 59% of all cases and females 41%.

Most cases were in the 40 - 44 age group - 16 (14%). The age category over 35 years represented 81% of cases (Graph 3).

The total number of foreign substances detected by qualitative and quantitative toxicological analyses far exceeded the number of cases. In 114 cases, 229 foreign substances were found, representing on average 2 substances per case. Except in cases where only one substance was detected, substances were found in two-, three- and four-fold combinations. Two substances were found in 50% and combinations of substances totally in 73% of cases. Benzodiazepines were the most frequently detected as a main substance in 46% of cases, totally, in combination with other substances in 57% of cases. Combination with ethanol was found in 39% of cases, of which in 70% it was combined also with benzodiazepines. Graphs 4 and 5 show the occurrence of individual groups of substances according to ICD-10 codes and the ratio of cases with detected benzodiazepines to the total number of cases.
In Bratislava region, 73% of the deaths were found. External cause of death was suicide - in 67% of the cases, 55% of the deaths occurred in the domestic environment (Graph 6).

Anamnestic data on the use / abuse of prescription drugs were not available in 59% of cases. In the case of a known history, there were chronic users / abusers in 8 (7%) cases. Thirty-three persons (34%) were psychiatric patients, of whom 24 (62%) committed suicide.

Conclusion
The results of the analysis point to a high risk of benzodiazepine use / abuse, possibly combined with ethanol. The results of our study showed relatively high participation rate of prescription drugs on total number of fatal cases related to drug abuse. This fact highlights the need to pay more attention to the indication of the treatment and to control of prescription in treated psychiatric patients, especially those at risk of suicide.

References

Literature
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