



A STATISTICAL STUDY OF THE CASES OF DIED DRUG ADDICTS, ABDUCTED AT THE DEPARTMENT OF FORENSIC MEDICINE AND DEONTOLOGY, UNIVERSITY HOSPITAL “ALEXANDROVSKA” – SOFIA FOR THE PERIOD 2006-2010.

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ABSTRACT

Reliable statistical data about mortality of deceased by drug poisonings that were not in a hospital by the time of death at the territory of Sofia and Sofia region are presented. The data are based on a conducted research of cases which were subjects of forensic medical examination at The Department of Forensic Medicine and Deontology, “Alexandrovka University Hospital” – Sofia, with established cause of death – drugs poisoning for the period 2006-2010.

Key words: drug poisoning; death due to drug abuse;

INTRODUCTION

Nowadays, severe global problems with a pandemic character are the mass production, prevalence and abuse of psychoactive substances, as much as their great variety and negative effects on society. Addictions affect mostly young people of the working age population and a significant percentage of them start using drugs in their childhood (Watson WA et al. 2003). Various packages of drugs sold at the black market, presence of impurities with other substances in different qualitative and quantitative proportions lead to unpredictable effects, overdose and death (Smith J. 1988; Oliver J. S. et al. 1999). This fact is related with the relatively easy access to medicines such as benzodiazepines, barbiturates, hypnotics, etc. which are being added to the drug substance.

The increased frequency of death in drug addicts in Republic Bulgaria in the last years and the lack of clear statistics on the number

and the cause of death of drug addicts has provoked research interest in this issue and motivated us to conduct a study of deceased with cause of death – poisoning with drugs on the territory of Sofia and Sofia region, which were subject to forensic medical examination. It should be noted that in cases with data for frequent and/or continuous drug abuse the cause of death is not specified in death reports, because of different considerations, mostly ethical. This results in distortion of the results of statistical studies in this area. That is the reason why this study is based on certain chemical tests performed with biological materials of deceased, subject to forensic medical examination.

MATERIALS AND METHODS

Conducted statistical study of forensic medical autopsies and related with them chemical studies of biological materials, committed in The Department of Forensic medicine and Deontology, “Alexandrovka University Hospital” during the period 2006-2010. For that period at The Department of Forensic medicine and Deontology, “Alexandrovka University Hospital” was performed 5594 forensic medical autopsies.

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RESULTS

In the statistical survey conducted on the results of 5594 autopsies and related toxicological studies of biological materials taken during the forensic medical examinations as blood, urine, stomach

and small intestine with contents, liver, kidney, lung, brain, cerebrospinal fluid and aqueous humor is established that 406 cases are concerned as death of acute drug poisoning (**Table 1**).

Table 1 . Number of autopsies-causes of death.

	TOTAL	INTOXICATION OF DRUGS	OTHER CAUSE OF DEATH
Number of autopsies	5594	178	5416

The analysis of the results reveals that in the year of 2006 there were 32 cases of death due to drug poisoning, in the year of 2007 the number of this kind of cases was 34, and in the next two years – 2008-2009 there was a formation of a plateau of the statistical curve with 35-36 cases per year. In 2010 there was

increasing of the number of the cases of deceased drug addicts – 41 cases (**Fig. 1**). The results of the performed statistical study about the distribution between women and men, who died of acute drug poisonings for the target period of 5 years revealed strongly dominance of mortality among men on the territory of Sofia (**Fig. 2**).

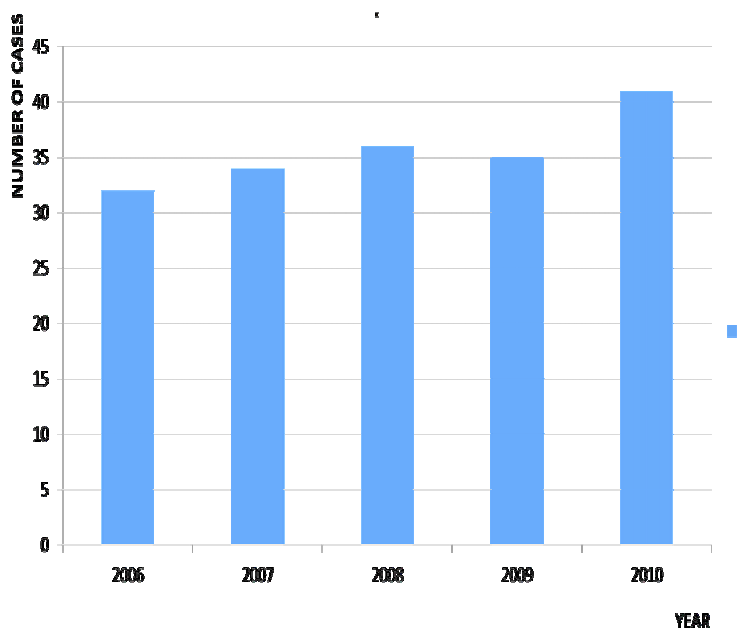


Fig. 1. Cases of deceased drug addicts.

DISCUSSION

The statistical results compared with previous our studies indicate a progressive increase in number of deaths from acute drug poisoning in the years 2006-2007, formatting a “plateau” of the statistical curve in the years of 2008-2009.

In the last year (2010) of this statistical study there was a “spike” of the mortality among drug addicts. The numbers of deceased due to drug abuse in the year of 2010 almost reached

the maximum peak of mortality by drug poisonings in Sofia and Sofia region, reported in previous studies in the year of 2000 when their number was 42.

Data from chemical analysis gives qualitative and quantitative characteristics of the existing in the body drugs, their metabolites, impurities of different medicines, the presence and concentration of ethylic alcohol and their distribution at the time of death in various body fluids and organs taken during the autopsy.

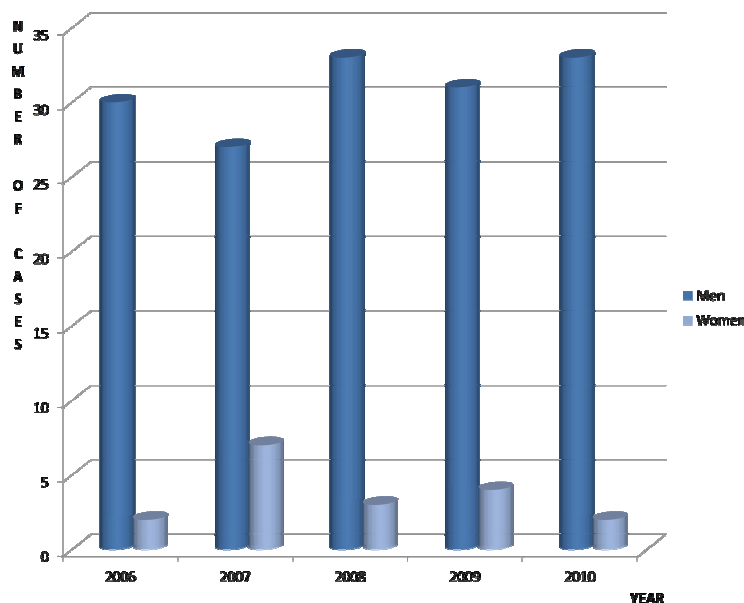


Fig. 2. Distribution between men and women.

The analysis of the identified substances and their concentrations in cases studied by us shows that in a great amount of them the death was caused by taking a single street dose of heroin with high drug content in it. According to the existing concentrations of metabolites of heroin in various organs and body fluids an indirect conclusions about the time of drug application prior to death can be made. In the materials that we have examined we have registered various ratios of the drugs and their metabolites. We have often established high heroin concentrations and presence of two or three injection stitches. That fact indicates to lower drug concentration in the street dose and probable quickly passing and unsatisfying effect, which made the consumer to perform more applications of the drug. The result of this multiple application is overdose and fatal outcome. In such cases, directions can be provided by the results of chemical analysis with significantly higher concentrations of metabolic products of heroin in the 'second ways'. On the other hand there are cases when significantly lower concentrations of metabolites of heroin combined with alcohol or other drug impurities, which themselves can be with different quantitative ratios also turn out to be fatal. The discussion of the data give ground to the conclusion that there is a considerable variety of cases. Each of them is specific and it is impossible to fully summarize the results within a scheme.

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