Driving under the influence of prescribed drugs in Poland – questionnaire studies

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Abstract
The earliest information about the influence of drugs on driving performance appeared in the forties.
Although the effects of alcohol and narcotics (illicit drugs) on driving performance have been widely studied and are well-known, the potential risk of patients causing traffic crashes under the influence of prescribed drugs is ignored by patients and also by pharmacists and physicians.
The purpose of this study was to assess the frequency of medicinal drugs taken by Polish drivers and to evaluate drivers’ knowledge on the impairment properties of various drugs on driving performance.
The study was performed on the basis of a specially constructed questionnaire, which was sent to 4 000 drivers.

1161 drivers (29%) responded to the questionnaire. In this group were 894 men and 267 women. Most of them were experienced drivers, driving longer than 5 years; the frequencies of driving were a few times a week or every day. Analysis of the answers showed that the prescribed drugs most frequently taken by drivers are pain relievers (35.6% of drivers) and benzodiazepines (11.1% of drivers). The most popular benzodiazepine was diazepam, taken by 40% of drivers taking benzodiazepines.

Only 28% of those questioned knew that law does not allow driving under the influence of the drugs mentioned in the questionnaire (psychotropic, benzodiazepines etc.). From the study it can be concluded that one third of Polish drivers drive under the influence of prescribed drugs that are forbidden by law when driving.
Introduction
The earliest information about the influence of drugs on driving performance appeared in the forties.
Although the effects of alcohol and narcotics (illicit drugs) on driving performance have been widely studied and are well known, the potential risk of patients causing traffic crashes under the influence of prescribed drugs is ignored by patients and also by pharmacists and physicians [1-6].

Materials and Methods
The questionnaire was sent to 4 000 drivers living in the south-eastern part of Poland.
The first part of the questionnaire concerned demographic data (sex, age, level of education, driving experiences etc.)**. In the second part were questions about medication-taking and driving under the influence of medicine. In this part of the questionnaire seven groups of medications were listed: sedative, hypnotic, psychotropic, pain relief, antiasthmatic, benzodiazepines and others. On the basis of the answer to this question, two variables were created: the first variable had a qualitative character – the answer “yes” was assigned if the driver was driving under even one questioned drug and “no” in the opposite situation. The second variable was quantitative and had values from 1 to 7 depending on the number of groups from which drivers took medicines and drove.
In the last part of the questionnaire, knowledge of road traffic regulations relating to driving under drug influence was tested. Respondents had to answer whether in Poland driving under drug influence is prohibited and how often other drivers drive under the influence of drugs.
For statistical analysis, in order to identify variables, which might influence the probability of driving after consumption of drugs a loglinear analysis was applied [7]. To check if sexes differ in the average number of various kinds of drugs ingested by drivers we used the randomization test which algorithm is described by Manly[8]. The G test was used to test the connections between opinion of the inquired person about commonness of using drugs by drivers and his/her own experience in driving after ingestion a drug.

Results and discussion.
Correctly filled-in forms were received from 1161 respondents (894 men and 267 women). The mean age of drivers was 42.1 ± 12.9 years, ranging from 17 to 84 years. The level of
education among drivers (respondents) did not reflect that of the general population in Poland. 39% and 29% of respondents had university and college education respectively. 28% of responding drivers had vocational education and 4% of the studied population had basic education. 75% of drivers lived outside Krakow City. The majority of drivers (83%) could be considered experienced drivers, as they had driven at least a few times a week over the last five years.

Among the questioned group were persons who took drugs from the list attached to the questionnaire but did not drive after this, and 251 (~30%) drivers who drove under the influence of drugs (Figure 1).

**Figure 1. Frequency of drug taking by drivers**

Most frequently drivers took pain relievers (274 cases), benzodiazepines (66 cases), and around 40 drivers took sedatives and antiallergics. Over 20 of them took psychotropic and hypnotic drugs (Figure 2).
Figure 2. The type of drug taking by drivers

As a result of log-linear analysis only sex has statistical importance (p<<0.001) when taking a decision about driving after medication taking (Figure 3). Other demographic parameters were not characteristic for people driving under drug influence.

Figure 3. Sex related driving under drug influence (white – women, black – men)
From the third part of the questionnaire it could be concluded that knowledge of traffic regulations among Polish drivers is low. Almost 18% of them think that the law does not forbid driving after taking drugs, and only 27% of drivers know that this kind of regulation exists. Interestingly, ignorance of traffic regulations was not correlated with frequency of driving under the influence of drugs (G=0.57, p<0.75).

References
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