

## Seasonal occurrence of domestic violence in Sofia – climatic and socio-economical determinants

Z. Spasova (1) and P. Zahariev (2)

(1) National Center of Public Health Protection, Health promotion and disease prevention, Sofia, Bulgaria (z\_spasova@abv.bg), (2) National Sports Academy, Sofia, Bulgaria

### Introduction

Domestic violence and its social and psychological consequences have long drawn scientific attention. Such interest is clearly justified, as this phenomenon is now one of the most significant issues in modern society. Domestic violence significantly and adversely affects its victims, both physically and emotionally, whether they be adults or children.

One aspect of domestic violence which is of particular interest is the relationship between domestic violence, weather variables, and temporal variables such as season, month, day of the week, time of day and holidays. The present article displays the results from a research on seasonal distribution of domestic violence occurrence.

Most researchers have found a summer peak in domestic violence cases (Michael and Zumpe (1986), Wagner and Almeida (1987), Le Beau (1988), Field (1992), etc). These researches have been made in the southern US cities and states, where often extremely high maximum temperatures are observed. Cohn (1990) also observes an increase in the number of domestic violence cases with the increase of air temperature (i.e. during the summer), although the relation between those two phenomena is unstable. Other authors make contrary findings. According to Rotton and Cohn (2001), who conducted their research in Minneapolis, crime, including domestic violence, decreases during the summer months. In Bulgaria such topic has not been discussed yet.

### Data and methods

The research was conducted in Sofia, Bulgaria. The data for domestic violence acts has been obtained from the Association "Animus" Foundation for the period 1.6.1998-31.12.2002. Seasons are defined as follow: winter (includes December, January and February), spring (March, April and May), summer (June, July, August) and autumn (September, October, November).

### Results and discussion

The highest levels of domestic violence are observed in winter, followed by autumn and spring and the lowest are in summer. The t-test revealed some significant variations according to season.

As early as 1842, Adolphe Quetelet formulate the so-called "thermal law in criminology". It states that property crime tends to peak in winter, while crime against morality and the person, in summer. There are several contemporary theories linking high temperatures with aggression, some of them in a straight (Anderson and Anderson, 1998), others in a curvilinear relation (Baron and Bell, 1976).

As for the seasonal distribution of the cases of domestic violence in Bulgaria, we believe some socio-economic factors are involved along the climatic ones.

The country has been in economic crisis for more than two decades. Statistics indicate that the biggest share of the household expenses are in winter, followed by autumn, spring and summer. Thus, the weight of supporting the family in winter has turned into a powerful factor for family conflict, which in some cases could build up to domestic violence.

The second factor is related to the use of alcohol, Bulgaria being among the top ranking countries in the world in this respect. Winter is the season with the largest number of public holidays, which are usually accompanied by the consumption of considerable amounts of alcohol, which leads to increase in aggressiveness. In turn, cold weather predisposes to the use of concentrated alcohol.

The seasonal variations in the cases of domestic violence are related to the amounts of time which families spend at home. The majority of acts of domestic violence occur at home. One of the reasons is the lack of witnesses, whose presence could have a restraining effect on the violator. A large amount of time spent by the members of the

family in a limited space increases the risk of family conflict and domestic violence. The time spent by the family at home has a direct relation to the climatic conditions. The more favorable conditions during the warmer half of the year are related to spending more time outdoors, and vice versa.

As a rule, the summer season is related to annual holidays in the family, which eases the tensions. Moreover, our data strictly refers to the capital city, which is usually being left by a large part of its inhabitants in summer, Sofia residents visiting the coastal and mountain resorts in the country and abroad.