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Foreigners Dying in Istanbul

ABSTRACT: The study included 411 deaths selected from 14,647 medicolegal deaths autopsied in the Morgue Department of Forensic Medicine Institute Directorate, affiliated with the Ministry of Justice, between 1998 and 2002. Data were collected from court documents, coroner's investigation reports, and autopsy reports. The parameters of age, gender, nationality and origin, cause and place of death in foreigners dying in Istanbul were evaluated in the study. Out of 14,647 medicolegal deaths, 3.5% were foreigners from 34 different nationalities. The nationality with the highest rate of foreigner deaths (34%) was Romanian. Out of 411 deaths, 74.3% were male and 25.7% were female. Of all cases, 64.4% were tourists visiting Istanbul and 35.6% had a job in Istanbul. Of 146 foreigners employed in Istanbul, 94.5% did not have a work permit, while only 5.5% had a work permit.

KEYWORDS: forensic science, foreigner deaths, forensic autopsy, causes of deaths, Istanbul, to work and to visit

Turkey has increasingly attracted the attention of tourists in recent years. The most crowded city of Turkey (with a population of 10 million at the time of the study), Istanbul is visited by millions of foreigners every year. The city is rich in historical and architectural remains and a large amount of money is invested in luxurious resorts for tourists every year. The number of tourists visiting Istanbul gradually increases every year. According to data from the State Statistics Institute (SSI) and Turkish Travelling Agencies Union (TTAU), a total of 11,737,591 foreign tourists visited Istanbul between 1998 and 2002. The largest numbers of foreign tourists were from Germany (12.4%), followed by the United States of America (U.S.A.) (8.5%), France (5.9%), Holland (5.9%), and England (5.6%) (1,2). Although it seemed that a large proportion of them visited Istanbul, some proportion of them came to Istanbul to look for a job.

Whatever the cause of death is, foreigners are autopsied when they die in Istanbul. Forensic autopsies are performed only in the Morgue Department of Forensic Medicine Institute Directorate, affiliated with the Ministry of Justice.

We attempted to investigate age, gender, nationality and origin, cause and place of death among foreign deaths autopsied between 1998 and 2002.

The aim of this study was to reveal the degree of risk for death among the foreigners in such a big metropolitan city as Istanbul, to determine the relation between causes of death and the reasons for being in Istanbul, to develop precautions against potential threats for foreign tourists and to make appropriate recommendations, and to investigate whether foreigners worked at safe workplaces and whether new regulations for workplace safety were required.

Materials and Methods

This is a retrospective study and included 411 foreigner deaths selected among 14,647 deaths in Istanbul autopsied in the Morgue Department of Forensic Medicine Institute Directorate, affiliated with the Ministry of Justice, between 1998 and 2002. Data were obtained from the archive of written documents: court documents, coroner's reports, and autopsy reports. All foreigner deaths in Istanbul are considered medicolegal cases and public prosecutors and doctors performing death investigations in foreigner deaths decide to carry out a medicolegal autopsy. Medicolegal autopsies are performed by forensic specialists and pathologists in one center. In all medicolegal autopsies, pathological examinations of all internal organs are done, blood, urine, and internal organ specimens are obtained to make systematic toxicological analyses and to detect alcohol, hypnotics, and narcotics. In deaths with suspected or claimed sexual assaults, anal and/or vaginal swabs are obtained to detect sexual assault evidence and DNA analyses are made.

Most of the corpses were identified by their relatives in front of the public prosecutors. DNA analyses were required only in a small number of deaths. Foreign decedents without relatives who were identified based on their identity cards recovered from the corpses and crime scenes were not included in the study. Statistical analyses of the parameters age, gender, nationality and origin, cause and place of death were made. Chi-square test was used for statistical analysis. A *p*-value <0.05 was accepted as significant.

Results

Of 14,647 medicolegal deaths, 411 (3.5%) were foreigner deaths. Of all 411 deaths, 64.4% were tourists and 35.6% were employed. Most of the foreigners in both groups were male. In fact, of 411 foreigner deaths, 74.3% were male (*n* = 233) and 25.7% (*n* = 178) were female. Of all male deaths, 56.7% were aged 21–50 years, 40.7% came to work and 59.3% were in Istanbul to visit the city. As expected, the number of foreigners aged below 20 and those aged above 50 was lower than that of the foreigners coming to visit the city (Fig. 1).

The most frequent origin of death was accidents (48.9%), followed by deaths from natural causes such as diseases (27.9%),

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Received 22 April 2008; and in revised form 26 Sept. 2008; accepted 11 Oct. 2008.

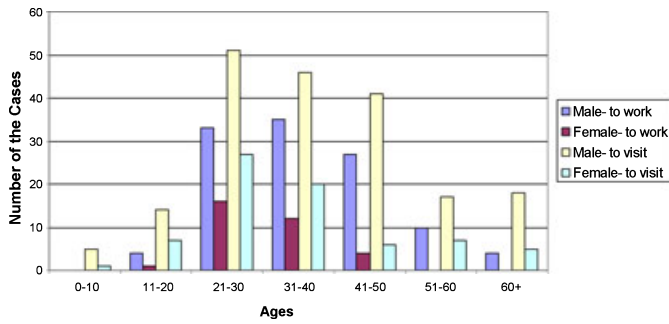


FIG. 1—The foreigner deaths by age and reasons for coming to Istanbul.

murder (15.5%), and suicide (3.8%). The origin of death was unknown in 3.6% of the cases. Out of all cases, 44.2% were found dead outdoors, 18.2% in hotels, 18% at work, and 14.3% at home.

The most frequent type of accidents was poisoning (31.3%). Out of all foreigners dying from poisoning, 30.1% came to the city to work and 69.9% came to visit the city. Poisoning was most frequently caused by methyl alcohol (62.2%). Other causes of poisoning were narcotics (21.3%), carbon monoxide (11.4%), and ethyl alcohol (4.9%). Of all deaths from poisoning, 83.6% were male, 16.4% were female. The second most frequent accident was traffic accidents (29.3%). Out of all foreigners dying in traffic accidents, 20.3% came to the city to work and 79.7% came to visit the city. The third most frequent accident was occupational accidents (27.8%) (Table 1).

Toxicological analyses were performed in the laboratory of the Board of Chemical Specialists of Forensic Medicine Institute affiliated with the Ministry of justice. The laboratory was the best laboratory equipped with state-of-art technology. Convay and HS/GC (head space gas chromatography) were used for alcohol analyses and cloned enzymatic donor immunoassay (CEDIA) and GC/MS (Gas chromatography/mass spectrometry) were used for drug analyses.

The most frequent cause of natural deaths was heart disease (73.9%). Less frequent causes of natural deaths were respiratory diseases, pathological cerebral hemorrhage, perforated gastric ulcer, meningitis, and others (Table 2).

Of all murdered foreigners, 62.5% were male, 37.5% were female, 34.3% died of firearm injuries, 28.1% died of injuries with cutting/drilling instruments, 20.3% died of battery, 15.6% were suffocated and 1.5% died of a blast.

TABLE 1—The foreigner deaths from accidents by gender, types of accidents, and reasons for coming to Istanbul.

Types of Accidents	Reasons for Coming to Istanbul						p
	To Work		To Visit		All Cases		
	Male	Female	Male	Female	Male	Female	
Poisoning	16	3	37	7	53	10	0.01
Traffic accidents	9	3	31	16	40	19	0.001
Occupational accidents	50	6	-	-	50	6	
Drowning	-	-	8	2	8	2	
Fall from a high place	-	-	5	4	5	4	
Trapped under collapsing buildings	-	-	1	1	1	1	
Fires	-	-	2	-	2	-	
Total	75	12	84	30	159	42	
	87		114		201		

TABLE 2—The natural deaths by gender.

Causes of Deaths	Male	Female	Total	%
Heart disease	73	12	85	73.9
Lung disease	9	2	11	9.5
Pathological cerebral hemorrhage	5	5	10	8.6
Perforated gastric ulcer	3	-	3	2.6
Meningitis	1	-	1	0.9
Complications of cancer	-	1	1	0.9
Epilepsy	-	1	1	0.9
Brain tumors	-	1	1	0.9
Pathological perforated uterus	-	1	1	0.9
Sudden infant death syndrome	-	1	1	0.9
Total	91	24	115	100

The cases were from 34 different countries. The country with the highest rate of foreigner deaths (34%) was Romania, followed by Azerbaijan (6.5%), Moldova (6.3%), Russia (4.8%), Ukraine (4.6%), and Bulgaria (4.3%) (Table 1). Of all Romanians, 88.5% were male, 11.4% were female, 46.4% were employed, and 53.5% were tourists. Of Romanians employed in Istanbul, 92.3% were male and 7.7% were female. Of Romanians visiting Istanbul, 85.3% were male and 14.7% were female (Table 3). The largest number of employed Romanians (86.9%) were aged 21–50 years and the largest number of Romanians visiting Istanbul (72%) were aged 21–50 years.

Since the number of foreigners coming to Istanbul in summer is usually increased, the number of foreigner deaths in summers between 1998 and 2002 was high. In fact, the number of foreigners coming to the city is increased by 29.4% in summer, 27.9% in spring, 23.1% in winter, and 19.4% in autumn.

The first and the second most frequent origin of death among the foreigners employed in Istanbul were accidents (56.8%) and natural causes (20.5%) respectively, followed by murder (12.3%) and suicide (8.2%). The origin of death was unknown in 2% of the cases (Table 4). Occupational accidents causing death were trauma (fall from a high place, burns, etc.) in 60.7%, electric shock in 25%, and poisoning with carbon monoxide in 14.3%. Based on the available documents, 94.5% of the foreigners employed in Istanbul did not have a work permit, while only 5.5% had a work permit. Most of them had a job, but they did not have a work permit.

TABLE 3—The foreigner deaths by nationality, gender, and reasons for coming to Istanbul.

Country	Reasons for Coming to Istanbul						Total
	To Work		To Visit		All Cases		
	Male	Female	Male	Female	Male	Female	
Romania	60	5	64	11	124	16	140
Azerbaijan	13	1	10	3	23	4	27
Moldova	2	5	9	10	11	15	26
Russia	2	5	5	8	7	13	20
Ukraine	1	7	5	6	6	13	19
Bulgaria	4	3	6	5	10	8	18
Iran	5	0	10	0	15	0	15
Georgia	1	1	6	4	7	5	12
Iraq	2	0	4	2	6	2	8
Germany	0	0	4	3	5	3	8
France	2	0	5	0	7	0	7
England	1	0	5	1	6	1	7
Bangladesh	2	0	2	1	4	1	5
Kazakhstan	0	3	0	2	0	5	5
Nigeria	1	0	4	0	5	0	5
Others	17	3	53	17	70	19	89
Total	113	33	192	73	305	106	411

TABLE 4—Distribution of cases by origin of death, gender, and reasons for coming to Istanbul.

Origin of Death	To Work		To Visit		Total	%	<i>p</i>
	Male	Female	Male	Female			
Accidents	71	12	87	31	201	48.9	0.02
Natural deaths	27	3	64	21	115	27.9	0.01
Murders	8	10	32	14	64	15.5	0.17
Suicides	6	6	2	2	16	3.8	0.001
Unknown	1	2	7	5	15	3.6	
Total	113	33	192	73	411	100	

As for the distribution of the origin of death among the tourists, 44.5% had an accident, 32% died of natural causes, 17.3% were murdered, and 1.5% committed suicide. The origin of death was unknown in 4.9% of the cases.

Discussion and Conclusion

A high rate of the cases included in the study (35.6%) came to Istanbul to work. Of all foreigners coming to work and dying in Istanbul, 94.5% did not have a work permit and only 5.5% had a work permit.

Foreigners who want to work in Turkey have to receive a work permit from Turkish embassies before coming to Turkey, and a residence permit from the police headquarters after coming to Turkey and finding a job.

The article 6 of the law numbered 2007 about Turkish citizens' rights to benefit from arts and services and the articles 15 and 16 of the law numbered 5,683 about foreigners' residence and traveling in Turkey require that employers who hire foreigners without a work permit are sued. Employers who hire foreigners have to submit a declaration including name, surname, address, nationality, occupation, and salary of the foreigners and date of their residence permit to the police headquarters or armed forces within 15 days after the foreigners have started to work (3).

It was striking that most of the foreigners dying in Istanbul between 1998 and 2002 were from Romania, Azerbaijan, Moldova, Russia and Ukraine. However, the largest numbers of foreigners coming to Istanbul were from Germany, the U.S.A., France, Holland, and England, though the death rate of foreigners from those countries were very low (Table 1). The rate of Romanians, Azerbaijani, Moldavians, Russians, and Ukrainians employed in Istanbul was higher than foreigners from other countries. Most of the Romanian and Azerbaijani were male and mostly worked in industrial plants and had technical jobs. Most of them died of occupational accidents or other types of trauma. Based on the court documents, we found that most of the Moldavians, Russians and Ukrainians employed in Istanbul were female and a large proportion of them were prostitutes and were murdered. This was very saddening and similar cases of murdered prostitutes have been reported in the literature (4). Moldavia, Russia, and Ukraine are close to each other, a socio-economic depression occurred in those countries and Istanbul, a cosmopolitan city, is close to those countries. For these reasons, Moldavians, Russians, and Ukrainians preferred to work in Istanbul. However, their living conditions are poor and they cannot benefit from transportation facilities. They also do not have a work permit.

The largest number of foreigners coming to work and dying in Istanbul (86.9%) were aged 21–50 years, which is consistent with the literature (5–8). It has been reported that the largest number of foreigners visiting Istanbul (72%) were aged 21–50 years (5,6,9,10). A significantly higher rate of the employed foreigners

died of accidents ($p = 0.02$) such as a fall from a high place, electric shock, and occupational accidents (64.3%). There may be illegal workers in all countries. Countries may not solve this problem alone and they should cooperate to solve this problem. Illegal workers, who usually work under poor conditions, should be provided with easily accessible and appropriate health care.

Accidents were the most frequent cause of death in both foreigners coming to work in Istanbul and those coming to visit Istanbul. However, a greater number of the foreigners coming to visit Istanbul died of traffic accidents ($p = 0.01$). It has been reported that tourist foreigners most frequently died from accidents such as traffic accidents and water sport accidents followed by cardiovascular, respiratory, and gastrointestinal diseases and that the role of drug abuse plays an important role in deaths from accidents (11–16). Local differences in traffic flow also increase the risk of deaths from traffic accidents (17). Previous studies from Turkey also revealed that traffic accidents were the most frequent causes of medicolegal deaths (18–22). Traffic accidents, which cause hundreds of deaths in Turkish citizens, might also affect foreigners. The high rate of deaths from traffic accidents may be due to high demand for highways and inadequate mass transportation in Istanbul. The foreign tourists, especially those living in the countries where they have to drive on the left should prefer public transportation to avoid traffic accidents.

Poisoning was the most frequent type of accident causing death among the foreigners (30.3%) and significantly frequent among those visiting Istanbul ($p = 0.001$). It was due to the high rate of poisoning with methyl alcohol (62.2%). Foreigners dying from alcohol intoxication between 1998 and 2002 might have been affected by trafficking in alcohol in those years. In this study, the foreigners dying from narcotics intoxication were African (87%) and the foreigners dying from alcohol intoxication were Asian (78%). It has been shown that people continue their habits such as smoking, taking alcohol, and diets wherever they go and that it plays a role in their diseases and death (5–7,23). Illegal alcoholic drinks, usually made of methyl alcohol, are manufactured in Turkey. Since they are cheap, they are preferred by illegal workers and cause deaths among them. People coming to Turkey should be warned against consumption of illegal alcoholic drinks through posters at the frontiers.

Consistent with the literature (9,24) and as expected, the rate of tourist foreigners dying from natural causes was high ($p = 0.01$). Marcopito LF in his study in Sao Paulo, Brazil, between 1979 and 1998, reported that the foreigners more frequently died of ischemic heart disease than the local people (6). It was attributed to the fact that tourist foreigners were old and that employed foreigners were exposed to poor working conditions and stressors and did not have a work permit (5,6,8).

In this study, the rate of murdered tourist foreigners was higher than that of murdered employed foreigners. This may have a discouraging effect on people who would like to visit our country. As expected, the origin of death was suicides in a higher rate of employed foreigners ($p = 0.001$).

The risk of infection is high among people traveling abroad. Travelers are exposed to conditions abroad different from those in their own countries. They have to survive in different seasonal characteristics such as temperature and humidity and on different food and activity level. They are at different risks (24–26). This is especially true for infections (11,27–30). Since Istanbul is not located in a region risky for infectious diseases such as malaria, none of the foreign deaths were caused by infectious diseases. In addition, sexually transmitted diseases such as AIDS and syphilis were not also found to cause deaths among the foreigners.

Leggat et al. reported that an explosion directed towards tourists caused deaths among tourists in Bali, Indonesia, in 2002 and emphasized that safety should be guaranteed for tourists (31). In the present study, one foreigner died in an explosion, but the explosion was not directed towards tourists. The affected person was just a bystander.

The rate of males dying from trauma was higher than that of females. It might be that a higher rate of males came to work and were exposed to trauma.

It has been reported in the literature that most of the tourists die in summer (9,10). In this study, since the number of foreigners coming to Istanbul in summer was high, the rate of deaths among tourists in summer is increased.

It can be suggested that the number and other features of foreigner deaths are associated with social, economic, and cultural characteristics of their native countries, the region where they live, and the time when they live. Foreigner deaths also have similar features to those of other medicolegal deaths where they live (5–8,23).

In conclusion, the largest number of foreigners dying in Istanbul between 1998 and 2002 were Romanian. Of all foreigners coming to Istanbul to work, 94.5% did not have a work permit and were exposed to poor working conditions. This underlines the necessity for adoption of new regulations and taking precautions. An international cooperation is a prerequisite for prevention of foreigner deaths. Countries should cooperate to avoid deaths among foreign tourists and foreign workers.

Limitations of the Study

This study has several limitations. First, we could not include the foreigner deaths without relatives although they were identified based on their identity cards. It was clear in most of those deaths that they came to Istanbul to work. Second, we failed to obtain detailed information about working and living conditions and deaths of illegal foreigner workers since the employers and eye witnesses were worried that their testimonies may have negative effects on themselves. Last, histories of chronic diseases in deaths from natural causes were not available.

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