



Original article

Evaluation Of Changes In Patterns And Rate Of Deaths In Homicidal Crimes Referred To Zeinhom Morgue In Years (2009-2010) Compared To (2016-2017).

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Abstract:

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Background: Studying the homicidal patterns and rate of deaths is very important as it has a great economical and emotional impact as well as being an indicator for the integrity of criminal judicial system. Data about the homicide rate and pattern in Egypt are very scarce. **Objectives:** This study aimed to assess the recent difference in rate and patterns of the criminal homicidal deaths referred to Zeinhom Morgue. **Material and methods:** this is a retrospective comparative cross sectional study included all criminal homicidal deaths referred to Zeinhom morgue in Cairo in the year 2009-2010 and the year 2016-2017. Data concerning the victims and the offenders were obtained and analyzed after taking permission. **Results:** The total studied homicidal cases in the two years were (1138). Most of the victim cases were males (82.6%), with significantly elevated percentage of the involved females. Most of offenders were drug abusers (95.34%). Significant increase in the unemployed offenders was noted. (17.49%) of the offenders were related to the victims and the highest percentage of whom was husband / wife (5.01%). Statistically highly significant increase in the percentage of the offender who was a son / daughter of the victim ($p < 0.001$) was noticed. **Conclusion:** Despite no increase in the homicide rate was noticed in 2016-2017 compared to 2009-2010, even the rate seems to be decreased, the pattern showed considerable alteration in several aspects urging dedicated investigation and real trials for management.

KEYWORDS

Homicide, rate, pattern, Zeinhom Morgue, Egypt.

I. INTRODUCTION

The International Classification of Crime for Statistical Purposes (ICCS), a branch of the United Nations Office on Drugs and Crime (UNODC), defined homicide as “unlawful death inflicted upon a person with the intent to cause death or serious injury” (UNODC,2019)

Homicide is considered as one of the major causes of deaths worldwide. It may be associated with organized crimes, drug trafficking and robberies. It may also result from interpersonal arguments between intimate partners and family members. Homicide could be motivated by revenge or jealousy (Taylor, 2018)

According to the criminal code of Egypt, homicide can be classified into premeditated murder, manslaughter and lawful killing that are done within the boundaries of law, e.g. capital punishments and justified self-defense.

It is worth mentioning that Egyptian legislation accommodates honor crimes, in which the sanction is reduced to the husband killing his adulterous wife, provided that killing occurred upon adultery committing (Zaid, 2015).

The different patterns of homicidal deaths include strangulation, hanging,

smothering, firearms, drowning, poisoning, and burning or using sharp or blunt weapons (Verma et al., 2018).

Worldwide, the homicide rate is estimated to be 6.1 per 100,000 in 2017. The rate in Egypt was much less than the global rate till 2010, being around one case per 100000 population. However, this level showed more than two times doubling (200%) in 2011 to be 3.5 per 100,000 populations (UNODC, 2019).

Studying the homicidal patterns and rate of deaths is very important as it has a great economical and emotional impact as well as being an indicator for the efficiency and integrity of criminal judicial system.

This study aimed to assess the difference in rate and patterns of the criminal homicidal deaths referred to Zeinhom Morgue between the year 2009-2010 and the year 2016-2017; to identify the possible change in the magnitude of violence in Egyptian community.

II.MATERIALS AND METHODS

Study design: this was a retrospective comparative cross sectional study that was conducted in Zeinhom morgue in Cairo, Egypt. All criminal homicidal deaths recruited to Zinhom morgue in the

period from 1st January 2009 to 31 December 2010 and the period from 1st January 2016 to 31 December 2017 were enrolled in the study. Cases of manslaughter, accidental deaths, capital punishments, self-defense deaths, and terrorist attacks were excluded.

All records of the described years were examined and analyzed. Data concerning the victim and the offender were obtained, including socio-demographic characteristics, addiction history, motive of homicide, method of homicide, weapon type, and the relationship between the victim and the offender.

Statistical analysis

The data were tabulated and statistically analyzed using the SPSS statistical software package (SPSS Inc., Chicago, IL), version 22. Analytical statistics (Chi-square test) a non-parametric test was used to compare between two groups for qualitative variables (Test, 2015). The significance of the results was evaluated on the light of probability (P), where (P) less than 0.05 is considered significant whereas (P) more than 0.05 is considered non-significant .

III. RESULTS

The total studied homicidal cases were (1138). In the years 2009-2010 there were 568 cases and 570 cases were in the years 2016-2017. The highest percentage of the victims was in the age range of 21-30years (35.24%). Statistically significant difference was noted between the studied years in distribution of cases among the different age ranges ($p = 0.002$). On the re-assessment based on each individual age range category, the years 2016-2017 showed statistically significant decrease ($p=0.42$) in the number of victims in the age group of 11 - 20, and a highly significant ($p<0.001$) decrease in the number of victims in the age range of 21- 30 years, whereas statistically significant increase occurred in the victims at the age range of 31- 40 ($p = 0.011$). The number of victims of age range 71-80, also was seen to be increased in the year 2016-2017 (2.28%) compared to the years 2009-2010 (0.88%). However, this increase did not reach the level of significance ($p = 0.058$) (table 1).

Most of the victim cases were males (82.6%), a statistically significant change in sex distribution

between the studied years was demonstrated ($p = 0.02$), as significantly elevated percentage of the involved females was seen, they constituted 20% of the victims in the years 2016-2017 compared to 14.79% on the years 2009-2010 (table 1).

Regarding the age distribution of offenders, the highest percentage was in the age group of 40-49 (38.58%), with statistically highly significant difference was shown between the studied years ($p < 0.001$). The analysis according to the different age categories revealed a highly statistically significant decrease ($p < 0.001$) in the number of offenders in the age group of 20 -29 years, and in the age group 30 -39 years. Nevertheless, a statistically significant increase ($p = 0.01$) in the number of offenders in the age group 40 -49 years was manifested, and a statistically highly significant increase in the age group 50 to 59 years was seen. Lastly, a statistically significant increase ($p = 0.014$) in the age group 60 -69 years was revealed (table 2).

Most offenders were males (95.52%), with no significant change as regards the sex distribution of the offenders between the studied years ($p > 0.05$) (table 2).

Most offenders were drug abusers (95.34%), a statistically highly significant decrease was noted as regards the percentage of drug abuser offenders ($p = 0.008$) in the years 2016-2017. The percentage of unemployment in the offenders was 6.15% in this study. Significant increase in the unemployed offenders was noted in the years 2016-2017 ($p < 0.001$) (table 3).

This study showed that 65.2% of the homicide cases had single injuries. There was no statistically significant difference between the studied years in multiplicity of the injuries ($p = 0.649$) (table 4).

The highest percentage of weapons used in this study was the sharp weapons to constitute 46.75% of the used weapons. The firearms constituted only 18.8% of the used methods, with no significant difference between the studied years. Statistically highly significant

difference was noted between the studied years in the type of the weapons used by the offender ($p < 0.001$), this was manifested as significant decrease in use of the sharp weapons ($p = 0.002$) and the use of hard weapons ($p = 0.013$) and highly significant increase in use of the soft and other methods (poisoning and drowning) ($p < 0.001$) (table 4).

By analyzing the relationship of the offender with the victim, it was demonstrated that majority of the offenders had no previous relationship with their victims in either of the compared periods. As regard crimes committed by a relative, spouse was the most accused in (5.01%) of deaths due to homicide, followed by parents with a percentage of (4.83 %) whereas step father or mother were the least accused group representing (1.05%) of the, a statistically highly significant increase ($p < 0.001$) in the number of the accused children was noted, they elevated from (0.53%) in years (2009-2010) to (2.28%) in years (2016-2017) (table 5).

Regarding scene of the crime, most of the homicide cases occurred outdoors

(70.65%). There was significant increase in the indoor murders in the years 2016-2017 (34.74%) compared to the years 2009-2010 (23.94%) (table 5).

Concerning the motive for murders, the highest motive was fight (50.88%). Highly significant differences in the percentage of different motives between the studied years ($p < 0.001$) were noted. Significant decrease in the fight and domestic violence percentages were noted in the years 2016 – 2017 (42.28% & 12.98% respectively) compared to the years 2009-2010 (59.51% & 17.25% respectively) at the expense of significant increase in sexual crimes (29.82 %) in the years 2016-2017 compared to (11.8%) in the years 2009 – 2010) (table 5).

In this study, the causes of death in different homicide cases were evaluated, the highest cause was hemorrhagic shock (68.1%). Others were intracranial hemorrhage, septic shock, neurogenic shock, asphyxia and emotional stress. A statistically highly significant difference was noted between the studied years ($p < 0.001$). A significant decrease

($p=0.013$) in the percentage of intracranial hemorrhage was noted being (15.61%) in years 2016- 2017 compared to (21.3%) in years 2009 – 2010, whereas asphyxia showed a highly significant($p < 0.001$) increase

from (4.93%) in years 2009-2010 to (12.11%) in years 2016-2017. Finally, a significant increase of emotional stress from 1.06 % in years 2009-2010 to 2.98 % in years 2016-2017 was noted(table 6)

Table (1): Chi-square test comparing the age and sex of homicide victims autopsied in Zeinhom Morgue during the period (2009-2010) compared to (2016-2017).

	Homicide incidence						Test		
	Years 2009-2010 T=568		Years 2016-2017 T=570		Total		X^2	<i>P-value</i>	
	N	%	N	%	N	%			
Age of the victim									
1-11months	6	1.06	5	0.88	11	0.97	0.095	0.76	
1 -10 years	24	4.23	27	4.74	51	4.48	0.17	0.68	
11-20	58	10.21	39	6.84	97	8.52	4.14	0.042*	
21-30	229	40.32	172	30.18	401	35.24	12.82	< 0.001*	
31-40	108	19.01	144	25.26	252	22.14	6.44	0.011*	
41-50	70	12.32	79	13.86	149	13.09	0.59	0.44	
51-60	46	8.10	53	9.30	99	8.70	0.52	0.47	
61-70	21	3.70	34	5.96	55	4.83	3.18	0.075	
71-80	5	0.88	13	2.28	18	1.58	3.58	0.058	
81-90	1	0.18	4	0.70	5	0.44	1.8	0.18	
X^2	26.698								
<i>P-value</i>	0.002*								
Sex of the victim									
Male	484	85.21	456	80.00	940	82.60	5.376	0.020*	
Female	84	14.79	114	20.00	198	17.40			
Total	568	100.00	570	100.00	1138	100.00			

N=number, %=percentage, *P* value > 0.05 = Non-significant,
P value < 0.05 = Significant < 0.001=highly significant, T= total number of autopsied deaths.

Table (2): Chi-square test comparing homicide deaths autopsied in Zeinoh Morgue according to the age and sex of offenders during the period (2009-2010) compared to (2016-2017).

	Homicide incidence						Test	
	Years 2009-2010 T=568		Years 2016-2017 T=570		Total		X^2	P-value
	N	%	N	%	N	%		
Age of the offender								
10-19	2	0.35	1	0.18	3	0.26	0.34	0.56
20-29	64	11.27	15	2.63	79	6.94	32.85	< 0.001*
30-39	193	33.98	92	16.14	285	25.04	48.23	< 0.001*
40-49	198	34.86	241	42.28	439	38.58	6.61	0.01*
50-59	104	18.31	201	35.26	305	26.80	41.68	< 0.001*
60-69	6	1.06	18	3.16	24	2.11	6.09	0.014
70-79	1	0.18	2	0.35	3	0.26	0.33	0.57
X^2	107.910							
P-value	< 0.001							
Sex of the offender								
Male	547	96.30	540	94.74	1087	95.52	1.630	0.202
Female	21	3.70	30	5.26	51	4.48		

N=number, %=percentage, P value > 0.05 = Non-significant,
P value < 0.05 = Significant < 0.001=highly significant, T= total number of autopsied deaths.

Table (3): Chi-square test comparing homicide deaths autopsied in Zeinoh Morgue according to offenders' characteristics during years (2009-2010) and (2016-2017).

	Homicide incidence						Test	
	2009-2010 T=568		2016-2017 T=570		Total		X^2	P-value
	N	%	N	%	N	%		
Drug abuser offenders								
Yes	551	97.01	534	93.68	1085	95.34	7.074	0.008*
No	17	2.99	36	6.32	53	4.66		
Employment of offenders								
Yes	551	97.01	517	90.70	1068	93.85	19.593	<0.001*
No	17	2.99	53	9.30	70	6.15		

N=number, %=percentage, P value > 0.05 = Non-significant, P value < 0.05 = Significant T= total number of autopsied deaths.

Table (4): Chi-square test comparing homicide deaths autopsied in Zeinhom Morgue according to multiplicity of injuries and the weapons used by the offenders during years (2009-2010) compared to years (2016-2017).

	Homicide incidence						Test	
	Years 2009-2010 T=568		Years 2016-2017 T=570		Total		X^2	<i>P-value</i>
	N	%	N	%	N	%		
Multiplicity of the injuries in victims								
Single	374	65.85	368	64.56	742	65.20	0.207	0.649
Multiple	194	34.15	202	35.44	396	34.80		
Weapons used by the offender								
Sharp weapons	292	51.41	240	42.11	532	46.75	9.89	0.002*
Firearm	94	16.55	120	21.05	214	18.80	3.78	0.052
Hard weapons	142	25.00	107	18.77	249	21.88	6.17	0.013*
Soft objects	28	4.93	72	12.63	100	8.79	21.06	< 0.001*
Fire ignition	12	2.11	16	2.81	28	2.46	0.57	0.45
Other	0	0.00	15	2.63	15	1.32	--	< 0.001*
X^2	48.09							
<i>P-value</i>	< 0.001*							

N=number, %=percentage, *P* value > 0.05 = Non-significant,

P value < 0.05 = Significant < 0.001=highly significant, T= total number of autopsied deaths.

Table (5): Chi-square test comparing homicide deaths autopsied in Zeinhom Morgue according to the relationship of the offenders with the victims, the crime scene and the motive of homicide during years (2009-2010) compared to years (2016-2017).

	Homicide incidence						Test		
	Years 2009-2010 T=568		Years 2016-2017 T=570		Total		X^2	<i>P-value</i>	
	N	%	N	%	N	%			
Relationship of the offender with the victim									
Strangers	470	82.75	469	82.28	939	82.51	0.043	0.84	
Brother-sister	24	4.23	17	2.98	41	3.60	1.27	0.26	
Parents	28	4.93	27	4.74	55	4.83	0.023	0.88	
Children	3	0.53	13	2.28	16	1.41	21.64	< 0.001*	
Spouse	29	5.11	28	4.91	57	5.01	0.027	0.87	
Friends	6	1.06	12	2.11	18	1.58	2.01	0.16	
Step father or mother	8	1.41	4	0.70	12	1.05	1.36	0.24	
X^2	10.812								
<i>P-value</i>	0.094								
Crime scene									
Indoors	136	23.94	198	34.74	334	29.35	15.983	<0.001*	
Outdoors	432	76.06	372	65.26	804	70.65			
Motive of homicide									
Fight	338	59.51	241	42.28	579	50.88	33.78	< 0.001*	
Robbery	65	11.44	85	14.91	150	13.18	2.99	0.084	
Domestic violence	98	17.25	74	12.98	172	15.11	4.045	0.044*	
Sexual crimes	67	11.80	170	29.82	237	20.83	56.08	< 0.001*	
X^2	48.09								
<i>P-value</i>	< 0.001*								

N=number, %=percentage, *P* value > 0.05 = Non-significant,
P value < 0.05 = Significant < 0.001=highly significant, T= total number of autopsied deaths.

Table (6): Chi-square test comparing homicide deaths autopsied in Zeinohm Morgue according the mechanisms of death during years (2009-2010) compared to years (2016-2017).

Mechanism of death	Homicide incidence						Test	
	Years 2009-2010 T=568		Years 2016-2017 T=570		Total			
	N	%	N	%	N	%	X^2	<i>P-value</i>
Hemorrhagic shock	399	70.25	376	65.96	775	68.10	2.4	0.12
Intracranial hemorrhage	121	21.30	89	15.61	210	18.45	6.12	< 0.013*
Septic shock	9	1.58	14	2.46	23	2.02	1.09	0.296
Neurogenic shock	5	0.88	5	0.88	10	0.88	0.00	0.996
Asphyxia	28	4.93	69	12.11	97	8.52	18.79	< 0.001*
Emotional stress	6	1.06	17	2.98	23	2.02	5.33	0.021*
X^2	29.23							
<i>P-value</i>	< 0.001*							

N=number, %=percentage, *P* value > 0.05 = Non-significant,
P value < 0.05 = Significant < 0.001=highly significant, T= total number of autopsied deaths.

IV. DISCUSSION

Homicide has been a problem encountering the public health all over the world (WHO, 2002). The homicide rates were estimated to be ranging from 0.4 to 4 per 100000 populations in the Arab countries (UNODC, 2013). Data about the homicide rate and pattern in Egypt are very scarce.

In the current study, it was found that 568 homicide cases were referred to Zeinohm Morgue in the years 2009-2010 and 570 cases were referred in the years 2016-2017. The

largest autopsy house in Egypt is Zeinohm Morgue, to which death cases from Cairo, Giza and part of Qalyubia governorates are referred, about one third of the Egyptian population inhabit those governorates (Zaghloul and Megahed, 2019). The homicide rate was calculated to be 2.1 per 100000 populations in 2009-2010 and 1.8 per 100000 populations in 2016-2017. The rates presented in this study are at least differing from the Egyptian global rate in 2009, as it is nearly doubled. This may be attributed to that the regions of Cairo and Giza, where the

Zeinhom Morgue lies and serves, are extremely crowded regions and considered the center of Egypt. The crowded environment, with associated stressful life style and work conflict, superimposed by limited resources may explain this localized increased homicide rate. Concerning the relation between this study calculated rate in 2016-2017 to the Egyptian global rate in the same year, no definite available data could be reached.

This rate is comparable to what was reported in previous studies conducted in Tunis (Ben Khelil et al., 2016), Senegal (Coelho et al., 2010), and Sweden (Krienert and Walsh, 2010). However, the homicide rate varied considerably in other countries, with extremely high rates in Colombia (25.4 per 100000) and extremely low in Japan (0.3 per 100000) (UNODC, 2013).

Despite the apparent decrease in the homicide rate in 2016-2017, the pattern showed significant changes in various aspects those foreshadowing the Egyptian community social environment threatening changes.

The current study showed that the highest percentage of the victims was in the age range of 21-30 (more than third of the cases). Significant increase in the victims at the age

ranges of 31- 40 and 71-80 was evident. The age of homicide victims in this study was in accordance with the study of Elgendy& Hassan, (2013) who reported that most of the victims aged from 21 to 50 years, with the peak was in the 3rd and 4th decades. Ben Khelil et al. (2016) study also reported that the victims' age mostly ranged from 20 to 39. The present study confirmed the elevated susceptibility of vulnerable elderly people to criminal violence. This result is supported by the Tunisian study of Braham et al. (2019) that presented increased targeting of the elderly by homicidal crimes. It is mistakenly assumed that they are respected in society and that they are protected in view of their age (Krienert and Walsh, 2010).

Despite this study evident victims male predominance which was reported in almost all of the previous studies and was explained elsewhere by their natural predominance, being the main responsible about their families, predisposing them to more stress and conflict, jealous nature, trending to revenge, and less patience, etc (Mohanty et al., 2013), significant elevation in the percentage of the involved females by about 35.7% was noticed, which emphasizes women progressing exposure to violence. Important factors seem mediating the increased women homicide, including sexual

violence and marital disharmony. A recent Egyptian study conducted by Zaghloul & Megahed, (2019) reported that homicide was the first common manner of females' unnatural death.

Regarding the age distribution of offenders, the highest percentage was in the age group of 40-49, with statistically highly significant decrease in the number of offenders aged between 20 and 39 years, and increase in the number of those aged between 40 and 69 years were shown. The significant increase in the older age group of the offenders found in this study is probably secondary to particular Egyptian social issue, where the economic state and growing population number make individuals join occupations and get economic independence in a relatively older age when compared to the past. Hence, persons present the complex perspectives of their personality at an older age that might include violence and homicidal behavior (Cipolloni et al., 2020).

The current study showed that the majority of offenders were males, with no significant change as regards the sex distribution of the offenders between the studied years. In accordance, the study of Fridel & Fox, (2019) reported that murderers were mainly males.

This study showed that most offenders were drug abusers with statistically highly significant decrease in the period (2016-2017) compared to the period (2009-2010). Drugs have been documented to have a strong association with the violence occurrence and homicide (Claro et al., 2015). The reduction in the number of drug abuser offenders may be attributed to the improved treatment plans for addiction in persons with drug abuse, and more probably due to the abuse of new psychotic substances that might be not yet scheduled in the routine laboratory analysis (Bulska et al., 2020).

The current study showed that the overwhelming majority of the offenders were employed. Significant increase in the unemployed offenders in the years 2016-2017 compared to the years 2009-2010 was shown. While many studies document a negative association between employment and crimes (Wakefield, 2008) and arguing that unemployment can be a catalyst for violent crimes (Mazorodze and Nsiah, 2020). Certain jobs like public exchange of money, delivery of passengers, goods or services and working alone or at night, are all risk factors for increasing violence (Loomis et al., 2001)

In this study, the most commonly used homicide method was sharp weapons. Firearms constituted only 18.8% of the used

methods, with no significant difference between the studied years. Significant decrease in use of the sharp and the hard weapons and increase in the use of soft objects were demonstrated.

The relative low use of firearms in this study can be explained even with the effectiveness of the Egyptian legislation regulating the possession of firearms. The most used weapons have remained of the sharp and blunt types in countries where strict laws imposed over firearms ownership such as, Egypt, Tunisia (Ben Khelil et al., 2016), Saudi Arabia (Madadin et al., 2011), the UK (Henderson et al., 2005). On the other hand, firearms have been the predominant homicide method in countries with laws permitting the firearms use for self-defense as the USA (Levine et al., 2012) and South Africa (Cocks and Saayman, 2012)

The current study demonstrated that majority of the offenders had no previous relationship with their victims. **Elgendy and Hassan (2013)** opposed this finding, it was found that the majority of homicidal victims were related to their offenders with the highest incidence of crimes occurred among family members (45%). By analyzing the relationship between the offender and the victim, it was demonstrated that spouse was the most accused relative, with no significant

difference between the studied years. Among all the results reported here, perhaps the most striking is the highly significant increase in percentage of son - daughter to be the homicide offender, putting a great conflict that is eminent to be accurately understood.

Most of the murders occurred outdoors. There was significant increase in the indoor murders in the years 2016-2017 compared to the years 2009-2010. This is in agreement with **Elgendy& Hassan (2013)**, who found that homicidal deaths occurred more outdoor (62.2%), likewise, **Elgendy et al., (2008)** found that outdoor was the most common (59%).

Concerning the motive for murders, the highest motive for murder was fight. Others were robbery and domestic violence. Significant decrease in the fight and domestic violence percentages were noted in the years 2016 – 2017 compared to the years 2009-2010 at the expense of significant increase in other motives, like sexual crimes. Different motives for homicide in different countries were described. In Northern Tunisia, homicide was mostly motivated by personal conflicts (**Belghith et al., 2021**) Quarrels and domestic arguments were reported as the most common motives for murder in Egyptian females (**Zaghloul and Megahed, 2019**).

The recent and significant increase in sexual related homicide in this study highlights the urgent need for dedicated analysis and management of such intruded striking alteration in the Egyptian community.

On analysis of the mechanisms of death in different homicide cases, the highest mechanism was hemorrhagic shock (more than two thirds). Others were intracranial hemorrhage, septic shock, neurogenic shock, asphyxia and emotional stress. A significant decrease in the percentage of intracranial hemorrhage was noted in the years 2016-2017, while deaths attributed to asphyxia had been significantly increased.

In accordance, the study undertaken in India by Mohanty&Patnaiket, (2013) revealed that hemorrhagic shock was the most common cause of death. This was confirmed also by another study in Nigeria (eze et al., 2011). The mechanism of death is reflecting the method of assault as well as its severity. The significant decrease in intracranial hemorrhage and increase in asphyxia as mechanisms of death are addressing the variation in the used weapons which was previously described.

V. CONCLUSION

Despite no increase in the homicide rate was noticed in 2016-2017 compared to 2009-

2010, even the rate seems to be decreased, the pattern showed considerable alteration in several aspects those urging dedicated investigation and real trials for management.

The present study is adding to the very scarce evidence focusing on the homicide pattern in Egypt. Moreover, it is the only one analyzing the recent alteration in this pattern that is mirroring the changes occurring in the Egyptian community.

VI. RECOMMENDATIONS:

According to our results, some urgent preventive measures are recommended to reduce the rate of homicide as follow:

1. The government should take necessary steps to improve the quality of life by creating more job opportunities and educate the high-risk group about Law.
2. The male -female gender difference should be avoided and equal education and job opportunities should be given to both sexes.
3. Alcohol sales and consumption should be monitored and strict action should be taken to who violates the law.
4. A strict action should be taken against individual who having deadly weapons and availability of such weapons have to be reduced.

VII. ETHICAL CONSIDERATIONS

This study was performed after the research ethical committee of Faculty of Medicine, Ain Shams University approval, code number (FWA000017585). An official permission for obtaining the records and appropriate data was retrieved from the head of Egyptian forensic medicine authority.

- No conflict of interest.

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الملخص العربي

تقييم التغيرات في أساليب ومعدل وفيات جرائم القتل المحولة الى مشرحة زينهم خلال الأعوام (2010-2009) مقارنة ب (2016-2017)

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تعتبر دراسة أنماط القتل ومعدل الوفيات أمراً مهماً للغاية حيث أن لها تأثيراً كبيراً من الناحية الاقتصادية والنفسية ، بالإضافة إلى كونها مؤشراً على نزاهة النظام القضائي الجنائي. البيانات حول معدل ونمط جرائم القتل في مصر شحيحة للغاية. الأهداف: هدفت هذه الدراسة إلى تقييم آخر الاختلافات في معدل وأنماط وفيات القتل الجنائي المحالة إلى مشرحة زينهم. المواد والطرق: دراسة مقطعية مقارنة بأثر رجعي تضمنت جميع حالات القتل الجنائي المحالة إلى مشرحة زينهم بالقاهرة في عامي 2010-2009 وعام 2017-2016 ، وتم الحصول على البيانات المتعلقة بالضحايا والجناة وتحليلها بعد أخذ التصريح اللازم . النتائج: بلغ إجمالي حالات القتل التي تم دراستها في العامين (1138) حالة. وكان معظم الضحايا من الذكور (82.6%) مع ارتفاع ملحوظ في نسبة الإناث. وكان معظم الجناة من متعاطي المخدرات (95.34%). ولوحظت زيادة كبيرة في عدد الجناة العاطلين عن العمل (17.49%) من الجناة لهم صلة قرابة بالضحايا وكانت النسبة الأعلى منهم الزوج أو الزوجة (5.01%). لوحظت زيادة ذات دلالة إحصائية عالية في نسبة الجنائي الذي يعد ابناً أو ابنة للضحية ($P < 0.001$). الاستنتاج: على الرغم من عدم ملاحظة أي زيادة في معدل جرائم القتل في عام 2017-2016 مقارنة مع 2010-2009 ، حتى يبدو أن المعدل قد انخفض ، أظهر دراسة النمط تغييراً كبيراً في العديد من الجوانب التي تحث على إجراء بحوث مخصصة وتجارب حقيقية لعلاج الوضع القائم.