

A n Autopsy Study on 68 Cases of Murder Suicides

Dinesh Rao^{*, a, b}

^a Department of Forensic Medicine, SIMS, No 15, Chikkasandra, Hesargatta Main Road, Bangalore-90, India.

^b Ex Director and Chief Forensic Pathologist, Jamaica.

* Corresponding Author: Dinesh Rao, Department of Forensic Medicine, SIMS, No 15, Chikkasandra, Hesargatta Main Road, Bangalore-90, India. Tel: +919741360206. E-mail: dineshrao22@yahoo.com

Abstract The present prospective study was carried from 2009 to 2012. During this period a Total of 3907 Homicides were Autopsied, of which 68 cases were recorded due to Murder Suicide Incidents, this contributed to 1.74% of Homicides Cases. A total of 174 victims died as a result of Murder. 89.72%(n-61) of the perpetrators were Male. The Most of the perpetrators belonged to the age group 31-40 years, contributing to 66.18% of the cases, and the least age group involved was between 11-20 and 41-50, contributing to 2.94% of cases. None of the Perpetrators above the age of 50 years were involved. Majority of the Victims were Females contributing to 78.74% (n-137) of cases. The Maximum number of Victims belonged to 31-40 year Age group contributing to 40.08%, the least age group involved was between 11-20 and 41-50, contributing to 7.47% and 12.64% respectively. There were no elderly victims recorded. Majority (30.88%;n-21) of the perpetrators involved were policemen and the least type of individuals involved were Soldiers contributing to 2.94%(n-02) of cases. The Relationship of the Victims revealed Divorced Spouse to be the Major Victims contributing to 29.31%(n-51) of the Victims, followed closely by Girlfriends and Children's contributing to 16.09%(n-28) each. The least affected were Housewives contributing to 11.49%(n-20) of the Victims. The Extramarital relationship (27.94%;n-19) and Jealousy(25%;n-17) were the Two Major Motives behind the Murder Suicide. The least provoking factors were Work stress(4.41%;n-03) and Disease conditions(2.94%;n-02). 91.18%(n-62) of the Perpetrators committed suicide by Gunshots. The least method adopted to commit suicide was Hanging contributing to 1.47% (n-01). 90.80%(n-158) of the Victims died as a result of Gunshot wounds. The least method adopted to Kill was by Ligature Suspension/ Hanging contributing to 1.72% (n-03) each. The perpetrator preferred in 30.88%(n-21)of Incidents Girlfriends House for Murder, followed closely by acts in Home in 25%(n-17) of cases. The commonest weapon of Choice was Firearm, which contributed to 91.18%(n-62) of the Cases, of which Handguns contributed to 75%(n-51) of cases. The least method adopted was by Ligature Suspension recorded in 1.47%(n-01) of cases. None of the incidents reported Murder and Suicide in different premises. The maximum distance between Suicide and Murder reported was 20 meters.

Keywords: Forensic science, Firearm, Death, Motive, Occupation, Psyche, Murder, Suicide, Sharp force, Hanging.

Introduction

A murder–suicide (or murdericide) is an act in which an individual kills one or more other persons before, or at the same time as, killing him- or herself. The combination of Murder and Suicide can take various forms. Homicide-suicides are rare but catastrophic events mainly occurs in intimate relationships and families. Though there is no national tracking system for murder–suicides in the United States, medical studies into the

phenomenon estimate between 1,000 to 1,500 deaths per year in the US^[1] with the majority occurring between spouses or intimate partners, males were the vast majority of the perpetrators, and over 90% of murder suicides involved a firearm. Depression, marital or/and financial problems, and other problems are generally motivators.

Violent deaths form a major menace in the urban society. the worst form of violent deaths are those of Murder Suicides(dyadic Deaths). With the onset of Urbanization

and industrialization has created immense opportunities both in the form of employment, investment and Business. This has also contributed to unemployment, Jealousy, Divorces, Sexual partner, work stress, diseases physical and mental, financial stress, domestic stress. All this factors have contributed to crimes in society. The present study is focused on those crimes involving Murder Suicides during the period of 2009 to 2012. Though Public health organizations have recommended restricted access

and safe storage practices as means to reduce firearm injuries and deaths despite this precaution and legislation the firearm is always a weapon of choice for majority of Deaths.

Aims and Objectives

- To study the age and sex distribution of victim and perpetrator in murder suicides.
- To study the occupation of the perpetrator.
- To study the relationship of the victim with the perpetrator.
- To study the circumstances and motive leading to murder suicide.
- To study the causes of deaths in murder suicide.

Material and Methods

All the cases referred to the Legal medicine unit of the Ministry were Materials for study, Many of the cases were referred as Murders only proper Crime scene examination, Ballistic and Autopsy examination Concluded as Murder Suicide.

Standard procedures adopted in studying circumstances, crime scene evaluation and autopsy examination. Circumstances were analyzed from witnesses statement, past history of Marital problems, Relation crisis. Crime scene examination by collecting all the Exhibits from the Ammunition, Weapon and analyzing the Weapon involved in the Crime and the number of bullets discharged from it, Besides Gunshot shot residues from all the Victims and Perpetrators.

Perpetrator identified.

Suicide confirmed. By the Number of Gunshots, Accessability, Gunshot shot residue, Location and type of wound, Weapon and Bullets found in the body.

Standard ballistic examination procedures followed.

Radiological examination of the body prior to autopsy is conducted to identify the Bullets or its fragments location in the body to facilitate retrieval and also to know the possible track taken by the Trajectory.

Intrusion by third party ruled out by carefully analyzing the Ballistic report, Crime scene, Relationship of the weapon and Bullet, exclusion of injuries due to other weapon.

The data in relation to circumstances were collected from the Police in few cases directly from the witness, Crime scene examination was conducted by the Author in majority of the cases except Few which was analyzed by Photographs and Vedio-graphs of the scene. Autopsy details were very vital besides the Ballistic report to conclude the Incident.

Observations

(Table 1-9)

Results

1. A total of 3907 cases of Homicides reported during the said period of Study, of which 68 cases were due to Murder Suicide, contributing to 1.74% of Homicides incidents. A total of 174 victims died as a result of the murder suicide incident.

2. Of the Total 68 Perpetrators, 61(89.71%) were Males and 07(10.29%). were Females involved in the Murder Suicide. The Maximum number of perpetrators belonged to 30-40 year Age group contributing to 66.18%, followed by individual belonging to 20-30 year age group, 27.94% and the least age group involved was between 10-20 and 41-50, contributing to 2.94% of cases.

None of the Perpetrators above the age of 50 years were involved.

3. Of the Total 174 Victims, 37(21.26%) were Males and 137(78.74%). were Females Victims. The Maximum number of Victims belonged to 31-40 year Age group contributing to 40.08%, followed by Victims belonging to 21-30 year age group and children's less than 10 years with each contributing to 22.99% and 16.09% respectively. the least age group involved was between 11-20 and 41-50, contributing to 7.47% and 12.64% respectively. There were no elderly victims recorded.

4. Majority (30.88%; n-21) of the perpetrators involved were policemen, This was followed by Perpetrators belonging to Business Community (20.59%; n-14), and the Unemployed (17.65%; n-12). However Four House wife (5.88%) were perpetrators and Chronic Drug Abuser (4.41%; n-03), Soldiers (2.94%; n-02) and Security Staff (4.41%; n-03) were involved in the Case.

5. Divorcee contributed to 29.31% (n-51) of the Victims, followed closely by Girlfriends and Children's contributing to 16.09% (n-28) each. The least affected were Housewives contributing to 11.49% (n-20) of the Victims. The other category of victims were Paramours, contributing to 14.37% (n-25) of the Victims.

6. The Extramarital relationship (27.94%; n-19) and Jealousy (25%; n-17) were the Two Major Motives behind the Murder Suicide. Other Factors like Infidelity (16.18%; n-11) and Domestic (17.65%; n-12) issues were the provoking factors. The Financial issues (5.88%; n-04), Work stress (4.41%; n-03) and Disease (2.94%; n-02) related issues also acted as triggering factors.

7. Indicates the different Causes of Death of the Perpetrator and Victim.

Majority of the Perpetrator ,91.18%(n-62) committed suicide by Gunshots. The least method adopted to commit suicide was Hanging contributing to 1.47% (n-01). The other methods adopted to commit Suicide were Poisoning in 2.94%(n-2) and Sharp Weapons in 4.41% (n-03) of Cases. Majority of the Victims ,90.80%(n-158) died as a result of Gunshots. The least method adopted to Kill was by Ligature Suspension/ Hanging contributing to 1.72% (n-03). The other means of killing the Victims were Poisoning in 4.02%(n-07) and by Sharp Weapons in 3.45% (n-06)of Cases.

8. The most preferred place (30.88%; n-21)of Incidence is Girlfriends House, followed closely by Incident in Home(25%; n-17). The least preferred place was in Public Place and Place of Work which contributed to only 2.94%(n-02) each. Other places preferred for the act were Paramours House(16.18%; n-11), at the residence of the Divorced spouse(14.71%; n-10) and outside the house in 7.35% (n-05) of Incidents.

9. The common weapon of Choice was Firearm, which contributed to 91.18%(n-62) of the Cases, of which Handguns contributed to 75%(n-51) of cases, other weapons like M16 (11.76%; n-08) and MP5 (4.41%; n-03) were also used for the act. The other means of Killing adopted were by Machete (Sharp weapon) contributing to 4.41%(n-03) of cases, Organophosphorus poison in 2.94%(n-02) and by Ligature Suspension in 1.47%(n-01) of cases.

10. The majority of the Suicidal injuries involving firearm were single Shot to the Head over the Temple in 94% and over the Chin in 4% and Left side chest in 2% incidences.

11. All the perpetrators died immediately after the Murder and the longest interval reported was suicide involving sharp force fatalities wherein the perpetrator committed suicide within 30minutes after the act.

Discussion

The present prospective study carried out for over a period of Four years(2009-2012),A total of 68 cases of Murder Suicide were reported(1.74%) claiming over 242 lives(174 +68). In a similar study conducted by Roma. P et al(2012)^[2] in Italy, Between 1985 and 2008, 662 cases of homicide-suicide were identified, with 1776 deaths. The

Table 1. Total Number of Homicides and Murder Homicides.

Year	Total Homicides	Number of Murder -Suicides	Percentage
2009	877	14	1.60%
2010	976	27	2.77%
2011	1112	15	1.35%
2012	942	12	1.27%
TOTAL	3907	68	1.74%

Table 2. Perpetrators Age and Sex Distribution.

Perpetrator	10-20	20-30	30-40	41-50	51-60
Male	02	18	39	02	00
Female	00	01	06	00	00
Total	02	19	45	02	00
Percentage	2.94%	27.94%	66.18%	2.94%	00

Table 3. Victims Age and Sex Distribution.

Victims	<10	11-20	21-30	31-40	41-50
Male	11	03	03	19	04
Female	17	10	37	62	18
Total	28	13	40	71	22
Percentage	16.09%	7.47%	22.99%	40.80%	12.64%

Table 4. Occupation of the Perpetrators.

SI No	Occupation	Total No	Percentage
01	Buisnessmen	14	20.59%
02	Policemen	21	30.88%
03	House Wife	04	5.88%
04	Unemployed	12	17.65%
05	Drug Abuser	03	4.41%
06	Farmer	09	13.24%
07	Soldier	02	2.94%
08	Security Staff	03	4.41%

Table 5. Victim'S Relationship with the Perpetrators.

SI No	Relationship	Total No	Percentage
01	House Wives	20	11.49%
02	Girlfriends	28	16.09%
03	Divorcee	51	29.31%
04	Children	28	16.09%
05	Paramour	25	16.09%
06	Inlaws	22	12.64%
Total		174	

Table 6. Motives Behind the Murder Suicide.

SI No	Relationship	Total No	Percentage
01	Infidelity	11	16.18%
02	Jealousy	17	25%
03	Domestic	12	17.65%
04	Economical/ Finance	04	5.88%
05	Extramarital	19	27.94%
06	Work Stress	03	4.41%
07	Disease	02	2.94%

Table 7. Causes of Death.

SI No	Causes of Death	Total No Perpetrators	Percentage	Total No.Of Victims	Percentage
01	Gunshot Wounds	62	91.18%	158	90.80%
02	Hanging	01	1.47%	03	1.72%
03	Poisoning	02	2.94%	07	4.02%
04	Sharp Weapons	03	4.41%	06	3.45%

Table 8. Place of Incident.

SI No	Place Of Incidence	Total No	Percentage
01	Home	17	25%
02	Girlfriend House	21	30.88%
03	Divorcee's Residence	10	14.71%
04	Outside House	05	7.35%
05	Public Place	02	2.94%
06	Paramours House	11	16.18%
07	Work Place	02	2.94%

Table 9. Types of Weapon of Assault.

SI No	Weapon	Total No	Percentage
1	Handguns	51	75%
2	M16	8	11.76%
3	Mp5	3	4.41%
Total	Firearms Used	62	91.18%
Other Means To Death			
1	Organophosphorus Insecticide Poison	2	2.94%
2	Sharp Weapons-Machette	3	4.41%
3	Work Place	1	1.47%

present study was in a population of 30,00,000/ i.e. on average one incidence per 100000 population per year, in a similar study conducted by Roberts. K. et al(2010) [3] in South Africa, for the years 2000 to 2001, The incidence was 0.89 per 100,000, higher than the international average. In the present study Majority of the Perpetrators were Male, comprising 89.71%(n-61) of the incidences and Majority of the victims were Females comprising 78.74%(n-137) cases, similar were the views of Adinkrah M,(2014)[4] and the observations made from Galta K,(2010) [5], who concluded 90% of the perpetrators were Male and 80% of the Victims were Females. Toygar M (2013) [6], De Koning E, Piette MH(2014) [7] and Cengija M(201)[8] made similar observations ,who concluded that Males were the major perpetrators with 97%, 86% and 82% of incidences respectively. In the present study the Maximum incidences, 66.18%(n-45) involving Perpetrators belonged to 31-40years, followed by individuals belonging to 21-30years(27.94%; n-19), similarly the Majority of the Victims belonged to the aged group

32-40(40.80%;n-71), the results are close to the observations made by Roberts K(2010) [3] but this observations are contrary to the claims made by Verzeletti A (2014) [9] who concluded that the Victims were usually young (30% was in the 21-30 years class) and males (64%). Majority of the perpetrators were men in uniform, Policemen (30.88%; n-21), followed closely by the individuals from the Business group(20.59%;n-14) and Unemployed (17.65%;n-12). The least involved were Soldiers(2.94%;n-02) and Security Staff(4.41%;n-03). All this individuals had one common factor , i.e. easy access to the weapon. Hence the Accessibility of the weapon is another important provoking factor which cannot be neglected. In the present study all the Suicides were committed immediately after the Murder with a delay of Maximum 30minutes in one case, similar are the views of Bourget D(2010) [10] and Shiferaw K(2010) [11]. In the present study the Extramarital relationship and Jealousy were the major Motive behind the Incidence comprising 27.94%(n-19) and 25%(17) respectively, this were closely followed by Infidelity and Domestic Factors

with 16.18%(n-11) and 17.65%(n-12) respectively. in a study conducted by Hellen F(2014) [12], he identified Breakdown of the marital relationship and social descent as probable leading motives. De Koning E, Piette MH(2014) [7] in his study made closer observation with the present study wherein, he concluded that the main motive for offenders to execute M-S is amorous jealousy (56%), followed by familial, financial, or social stressors (27%), In the present study financial and stress factors contributed to 5.88%(n-04) and 4.41%(n-03) respectively. The observations made by Roma. P.(2014)[2] were close to the present study wherein, The most common motivation was romantic jealousy, followed by socio-economic stress. Over all the Family related factors were the major motivating factors for the incidence similar were the views of Gupta BD, Gambhir Singh O(2008) [13]. It is obvious that ,all the motivating factors have a longstanding impending factors on the Psyche of the perpetrators which has manifested into Murder Suicide Incident Galta K(2010) [5]. This Instability in the minds of the Perpetrator like fear of losing the family, reputation, sexual jealousy, infidelity has provoked him to pursue this act. The major cause of death were as a result of Firearm related deaths ,90.80%(n-158) followed by Sharp weapon injuries in 4.41%(n-03) of cases ,similar were the observations made by Grabherr S(2010) [14], Shiferaw K(2010)[11] and du Plessis M, Hlaise KK(2012) [15]. In the present study an incidence of Hanging formed the mode of Murder Suicide incident .The common weapon of assault was Firearm in 91.18%(n-62) of the incidences, with handgun contributing to major part of firearm ,75%(n-51), similar are the views of Shiferaw K(2010) [11] and Roma

P(2012)^[2], In the present study the Majority of the incidence, 30.88%(n=21) occurred in Girlfriends house, follow closely by the incidences occurring in Home of the Perpetrators, 25%(n=17) and the seperated partners(divorcee) residence in 14.71%(n=10) of the incidence, the least place preferred by the perpetrators were the Public place and Place of Work. All this clearly indicates the Family related factors, Jealousy and fear of loosing the partner to others and reputation culminating into a triggering factor for Murder Suicide incident. Roma P(2012)^[2] De Koning E, Piette MH(2014)^[7]. In the present study the psychiatric evaluation of the Perpetrators were not included and all the Standard procedures were followed to establish the Perpetrator and Suicide. The majority of the Suicidal injuries involving firearm were single Shot to the Head over the Temple in 94% and over the Chin in 4% and Left side chest in 2% incidences.

Conclusions

- Perpetrator had a fair access to firearm make.
- Firearm is the preferred weapon in murder suicide.
- Males form the major group of perpetrator.
- Family (spouse/girlfriend/ separated partner) related issues are the major motivating factor in murder suicide
- Majority of the crime committed at the place of spouse/girlfriend/separated wife.

- Suicide after murder at the place of crime are the commonest and usual pattern.
- Standard procedures to be followed in studying the circumstances, crime scene evaluation and autopsy examination to confirm the suicide and crime.

Recommendation

- Psychiatric evaluation /counseling essential in family related issues.
- Firearm legislation to be renewed.

Acknowledgements

Jamaican Constabulary Force, Bureau of Special Investigation, Major Investigation Task Force, Crime Investigation Bureau, Legal Medicine Unit, Computer Section.

References

1. American Roulette: Murder–Suicide in the United States. Violence Policy Center.
2. Roma P, Spacca A, Pompili M, Lester D, Tatarelli R, Girardi P, Ferracuti S. The epidemiology of homicide-suicide in Italy: a newspaper study from 1985 to 2008. *Forensic Sci Int*. 2012 Jan 10;214(1-3):e1-5.
3. Roberts K, Wassenaar D, Canetto SS, Pillay A. Homicide-suicide in Durban, South Africa. *J Interpers Violence*. 2010 May;25(5):877-99.
4. Adinkrah M. Homicide-suicide in Ghana: perpetrators, victims, and incidence characteristics. *Int J Offender Ther Comp Criminol*. 2014 Mar;58(3):364-87.
5. Galta K, Olsen SL, Wik G. Murder followed by suicide: Norwegian data and international literature. *Nord J Psychiatry*. 2010 Dec;64(6):397-401.
6. Toygar M1, Türker T2, Eroğlu M3, Kaldırım U4, Poyrazoğlu Y5, Eyi

7. YE6, Durusu M4, Eryılmaz M4. An analysis of firearms-related deaths between 1993-2010: a retrospective study. *Ulus Travma Acil Cerrahi Derg*. 2013 Nov;19(6):536-42.
8. De Koning E, Piette MH. A retrospective study of murder-suicide at the Forensic Institute of Ghent University, Belgium: 1935-2010. *Med Sci Law*. 2014 Jan 15.
9. Cengija M, Cuculic D, Petaros A, Sosa I, Bosnar A. Homicide-suicide events in Southwestern Croatia, 1986-2009. *Med Sci Law*. 2012 Oct;52(4):217-22.
10. Verzeletti A1, Russo MC2, Bin P2, Leide A2, De Ferrari F2. Homicide in Brescia County (Northern Italy): A thirty-year review. *J Forensic Leg Med*. 2014 Feb;22:84-9.
11. Bourget D, Gagné P, Whitehurst L. Domestic homicide and homicidesuicide: the older offender. *J Am Acad Psychiatry Law*. 2010;38(3):305-11.
12. Shiferaw K, Burkhardt S, Lardi C, Mangin P, La Harpe R. A half century retrospective study of homicide-suicide in Geneva--Switzerland: 1956-2005. *J Forensic Leg Med*. 2010 Feb;17(2):62-6.
13. Hellen F, Lange-Asschenfeldt C, Huckenbeck W, Hartung B. ["Extended suicide" : Homicide-suicide under psychopathological and criminological aspects.]. *Nervenarzt*. 2014 Jan 17.
14. Gupta BD, Gambhir Singh O. A unique trend of murder-suicide in the Jamnagar region of Gujarat, India (a retrospective study of 5 years). *J Forensic Leg Med*. 2008 May;15(4):250-5.
15. Grabherr S, Johner S, Dilitz C, Buck U, Killias M, Mangin P, Plattner T. Homicide-suicide cases in Switzerland and their impact on the Swiss Weapon Law. *Am J Forensic Med Pathol*. 2010 Dec;31(4):335-49.
16. du Plessis M, Hlaise KK. Homicide-suicide (dyadic death): a case study of double hanging. *Am J Forensic Med Pathol*. 2012 Sep;33(3):262-4.