



Profile of autopsied homicidal victims of eastern Nepal: An observational study

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ABSTRACT

Objective: This study was performed to create a profile of the victims of intentional homicide in eastern Nepal.

Methods: This is an observational study of homicidal victims autopsied from January 01, 2009 to December 31, 2011 at the Department of Forensic Medicine and Toxicology, a tertiary referral centre in Dharan, Nepal, analyzing: age, sex, educational condition, marital status and occupation of victims, homicidal method employed, motive, season of the year and toxicological study, along with few details on the victims' personal history (alcohol and drug abuse).

Results: The homicidal victim profile attained matched that of a man who was a young adult between 25 to 34 years of age, illiterate, unmarried, unemployed, alcoholic and was killed intentionally by sharp weapons or firearms during the September to October period. The most frequent reason for being killed was an argument that led to assault and eventually death.

Conclusion: The study of this occurrence should ultimately result in enhanced prevention from these prospective evaluations of the profile. Preventive interventions at the national, social and medical level would be fundamental in saving the lives of potential victims.

Key words: Homicide, victim, sharp force injury, firearm injury, blunt force injury, Nepal

Introduction

Homicide means the killing of a person by another person with malice aforethought [1]. Data from the United Nations Office on Drugs and Crime says that 3 homicidal deaths occur per 100,000 inhabitants in Nepal annually [2].

This phenomenon is studied in developed countries, so factors found to co-habitate there may not

be applicable in elucidating similarities in developing countries [3]. With areas of mutual concern and the relevance of medical and legal knowledge, this study was conducted for the betterment of the society [4]. Nepal is a landlocked nation between China in the north and India in the east, west and south and it has five developmental regions. The present study seeks to shed light on the victims of homicide in the eastern region of Nepal.

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Materials and Methods

The present study was carried out at the Department of Forensic Medicine and Toxicology (FMT), a tertiary care health centre. A total of 819 autopsies were examined for homicide and the samples were collected by forensic pathologists from the mortuary of FMT from January 2009 to December 2011.

Evaluation of the examination procedures was performed by a tabular catalog according to the listed criteria: age (WHO division), sex, educational status, marital and occupational status, homicide method, homicide motive, year, month, season, toxicological study and personal history (alcohol and drug abuse). These variables were studied and the data derived were entered into the catalog, separated and treated with the SPSS (Chicago: SPSS Inc.) program version 17 statistically.

Results

Number of cases

In total, 819 autopsies were carried out between January 2009 and December 2011 - 13.0% (107/819) were the victims of homicide. Homicide number variation could not be appreciated throughout the period of study.

Year distribution

The highest percentage of homicide victims was in 2010 - 36.4% (39/107) - and the lowest was in 2011 - 28.9% (31/107) (Figure 1).

Month distribution

Most of the homicidal cases were in September and October, corresponding to 14.0% (15/107) and 13.0% (14/107), respectively. March was the month with the least number of homicides at 4.6% (5/107) (Figure 2).

The season with the highest number was autumn at 36.4% (39/107).

Gender and age distribution

Most of the homicidal victims were males 79.4% (85/107) the studied age divisions (Figure 3, 4). This predominance was particular notable between 25 and 34 years-old at 36.4% (39/107) (Figure 5). Teenage males and young adults corresponded to 27.1% (29/107) of all homicide cases.

Marital status distribution by age

It was not possible to obtain information on the marital status of one victim. The majority of the homi-

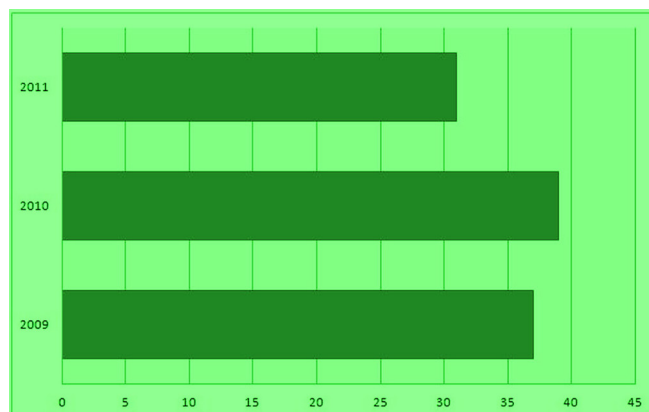


Figure 1. Homicide distribution by year. The year 2010 had the most (39) homicide victims.

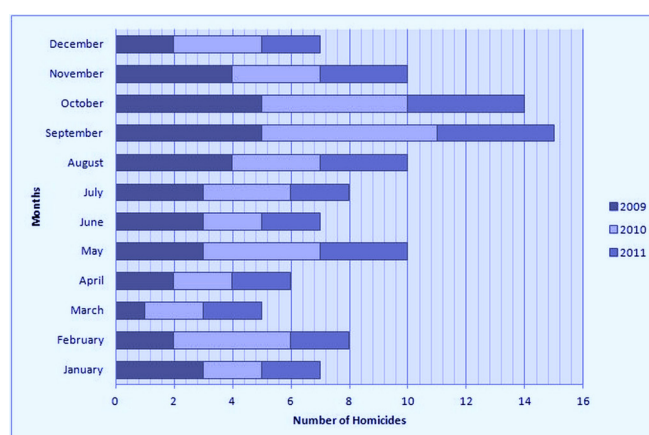


Figure 2. Homicide distribution by month. Most of the cases were in September (15) and October (14) corresponding to 14.05% and 13.08%, respectively.

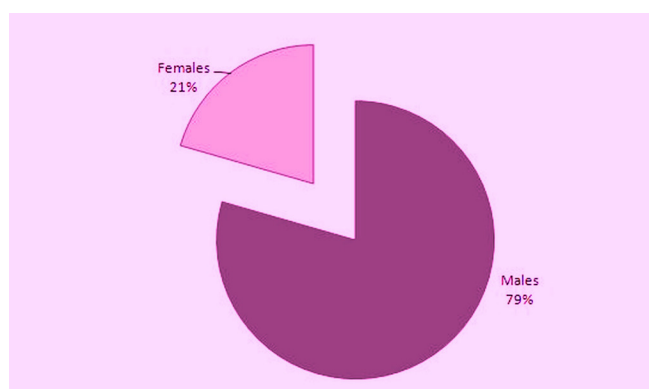


Figure 3. Gender of the homicide victims.

cide victims, at 55.1% (59/107), were unmarried. Married victims accounted for 33.6% (36/71) and teenagers and young adults represented 38.0% (27/71) of all singles. Singles fitting in to this age group accounted for 25.4% (27/106) of all homicides (Figure 6).

Educational distribution

Educational status of all homicide victims is displayed in Table 1. 35.5% (38/107) of the total homicide victim population was illiterate and 28.97%

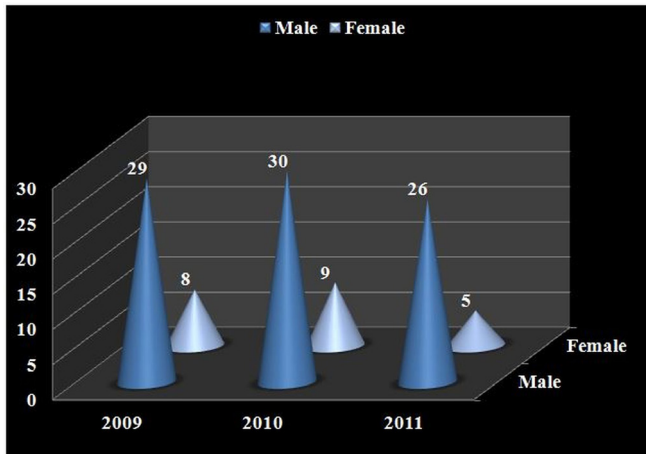


Figure 4. Gender of the homicide victims by year.

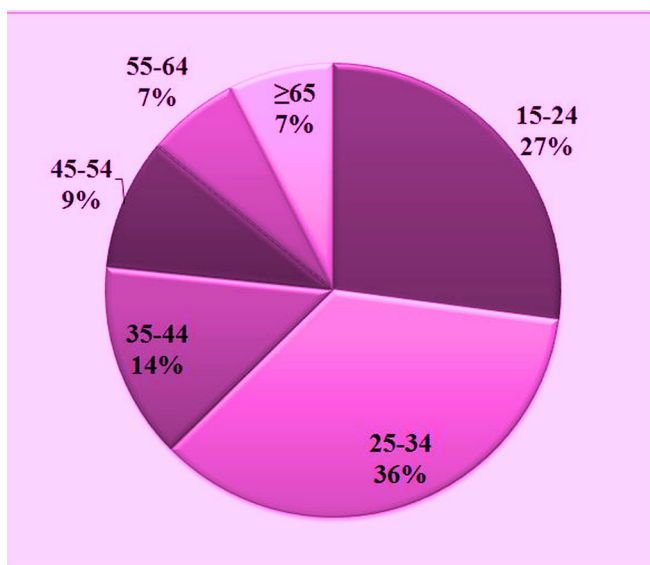


Figure 5. Homicide victims by age group. Teenagers and young adults represented 27.10% of all cases.

(31/107) of the total only had primary education. Just 6.5% (7/107) of the homicide victims were graduates or post-graduates.

Occupational distribution

In only 71.0% (76/107) of the cases was information on employment status available. 54.2% (58/107) of the total sample size and 76.3% (58/76) of the known cases involved unemployed individuals.

76.3% (58/76) of the victims with known occupational status were unemployed. Victims with a job in the 15 to 34 years age group represented 5.2% (4/76) of all homicide victims (Figure 7).

Homicide method

It was found that the most common fatal injuries were that inflicted by sharp weapons and firearms, accounting for 37.3% (40/107) and 31.7% (34/107), respectively, of the total number of cases. It is clear

from Table 2 that most of the injuries inflicted by sharp weapons 67.5% (27/40) corresponded to homicides with injuries from heavy sharp weapons, the traditional Nepali weapon, the “Khukuri”, in particular.

Motive of homicide

It was only possible to discern motive in 63.5% (68/107) of the homicide cases based on history specified by relatives and friends. The most common reason to kill was an argument - 61.7% (42/68) of known cases and 39.2% (42/107) of the total involved an argument that had gone too far and became violent (Figure 8). Property and monetary affairs were factors in 13.0% (14/68) of known cases, the perpetrator killing the victim to rob them in 13.2% (9/68) of known cases and for revenge or to “teach him/her a lesson” in 2.8% (3/107) of total homicidal cases.

Blood Alcohol Concentration (BAC) estimation for ethanol

In total, there were 82.2% (88/107) requests for assessing ethanol concentrations present in blood,

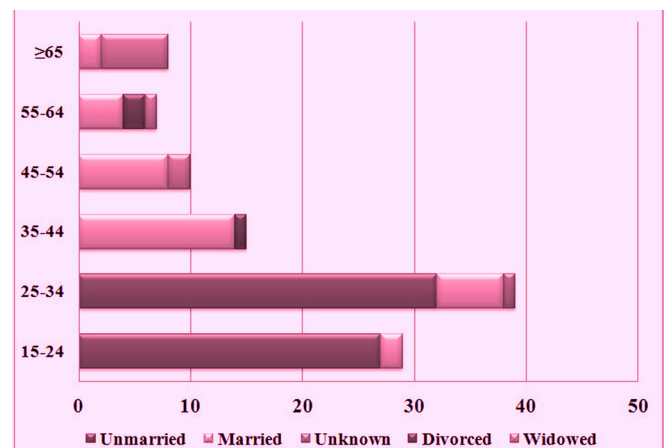


Figure 6. Marital status of the homicide victims by age. Most of the homicide victims (59) were unmarried individuals.

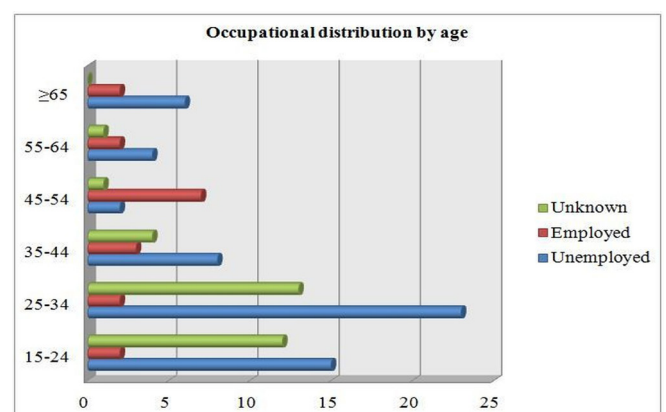


Figure 7. Occupational distribution by age. 58 victims of homicide (54.20% of the total and 76.31% of the known cases) were unemployed.

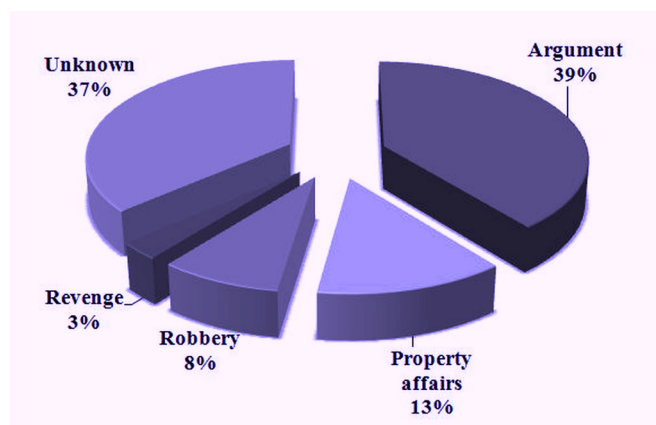


Figure 8. Motive for homicide. The most common reason to kill was an argument (39.25% of the total and 61.76% of the known cases) that had gone too far and became violent.

with 43.1% (38/88) of all victims testing positive. This was found mostly in men at 94.7% (36/38), with 50% (19/38) aged between 25 to 34 years. 42.1% (21/38) of the ethanol-positive cases were found to implicate teenagers and young adults.

Most of the ethanol-positive cases revealed a BAC between 0.9 and 1.2 g/L at 47.3% (18/38), followed by a BAC in the range of 0.6 to 0.8 g/L at 31.5% (12/38) as shown in Table 3. BAC \leq 0.5 g/L were the least prevalent at 7.8% (3/107) of all homicide victims.

History for alcohol and drug addiction

26.1% (28/107) of all the homicide victims had a history of alcoholism. Most were males, accounting for 96.42% (27/28) of alcoholic homicide victims. Alcoholic behavior was most common amongst the 25 to 34 years age group (64.2% [18/28]).

Drug addiction was found in only 4.67% (5/107) of all homicide cases, with cannabis addiction at 1.86% (2/107) and opiate addiction at 3.73% (4/107). Addiction to both cannabis and opiates was found in just 20% (1/5) of these cases. A history of abusing any other drug was not found. In the year 2010, there were no cases with a drug addiction history.

Discussion

We could only find one national publication that considered a few of the studied qualities in homicidal occurrence [5] in this region, but this did not focus on the time period involved here or the diverse study parameters. Additionally, a few key issues loomed with the intention of creating additional useful deterrence policy for homicide cases.

Over the observed years, there was not much of a

Table 1. Educational status of the homicide victims.

Educational status of victims	Percentage
Illiterate	35.51
Primary education	28.97
High school	25.23
Graduate	4.67
Postgraduate	1.86
Unknown	3.73

Table 2. Homicide method distribution.

Homicide method	Number of cases	Percentage
Sharp weapon		
1. Heavy Sharp Weapon	27	67.5
2. Light Sharp Weapon	13	32.5
Firearm	34	31.77
Blunt Weapon	28	26.16
Strangulation	4	3.73

Table 3. Blood Alcohol Concentration (BAC)-positive results.

Blood Alcohol Concentration (BAC)	Positive Results
BAC \leq 0.5	3
BAC = 0.6 to 0.8	12
BAC = 0.9 to 1.2	18
BAC \leq 1.3	5
Total	38

disparity in homicide rates, from 31 cases (12.44% out of 249 cases that year) in 2011 to a maximum in 2010 with 13.35% (39 cases) out of 292 cases. Another study carried out in the same area published in 2011 concluded that that 50 cases of total autopsies from April 2009 to July 2010 corresponded to homicide cases [5]. According to the National Statistical Office and UNODC, Nepal's intentional homicide count was 804, 818 and 786 in 2009, 2010 and 2011, respectively, the rate per 100,000 population being 3.0, 3.0 and 2.9 for those consecutive years [6]. The rate of homicide in Nepal per 100,000 population was 2.7 in 2000, increasing to 3.8 in 2004 but then gradually decreasing to 2.9 in 2011 [6]. Our study also corresponds to this finding as 34.57% of total homicide cases were in 2009, reduced to 28.97% in 2011. This can be explained by the fact that the armed domestic conflict in Nepal that lasted

nearly a decade came to an end in 2006 with the Maoists emerging at the political front. Thus, though insignificantly, homicide cases are diminishing in number and the compositional factors related with societal and political circumstances utilized in homicidal research explains the current decrease in the rate of homicide in Dharan, also been proposed by a study in the United States from 2008 [7].

September and October were the most active months where there were an elevated number of homicides. These months corresponded to the most affected season - autumn - a phenomenon not observed in any other study [8]. A possible explanation for this may be the association of this time of year with the start and end of the Nepalese Dashain and Dipawali festivals, the financial burden to celebrate them and subsequent return to employment and daily hassle, along with shifting of the weather connected to increased darkness (involving November). Actually, it can be observed that the attained deviation in season affecting the homicide rate is possibly based on the combined effect of various factors, owing to seasonal dissimilarities on their own, like the holiday time, extent of gloominess and hectic daily living.

As also surveyed by other authors [9-12], we found male homicide victims outnumbering females in all age groups. A study on the assessment of injury patterns in homicide by sharp and blunt force found male predominance in both situations [13]. At the global level, as well, males account for almost 8 out of every 10 homicide victims [2]. Furthermore, the men-women ratio was 3.8:1, confirming the inordinate proportion of males as homicide victims. This could be attributed to the fact that Nepalese society, though making an effort to ensure equality exists between males and females, is still dominated by males. Males have additional influences through more vigorous living and spending much time outdoors to earn essentials for their families. There is also the intrinsic mentality divergence amid both sexes, and males tend to get involved in violent activities more frequently. As stated by the 2015 International Encyclopedia of the Social and Behavioral sciences, gender variations in violence is an old and robust psychological discovery [14].

In this study, the greatest percentage of homicide

victims (36.44%) were between 25 and 34 years-old, in accordance with many other studies [8,11,12]. Teenagers and young male adults corresponded to 27.10% of total homicides. According to the 'Global Study on Homicide', approximately half of all global homicide victims are under 30 years of age [2]. The number of elderly victims in Dharan was comparatively less, just as observed in other studies [15,16].

The elevated number of victims in the 25 to 34 years age group is possibly based on the actuality that they interact with other people more often and are also more quick-tempered compared to both extremes of the studied ages. Young adults have less developed decision-making abilities, their reactions being more emotional than rational. On the other hand, daringness is also more pronounced as a consequence of alteration of the socio-emotional system of the brain during puberty, with remarkable modications of the dopaminergic system that directs to reward-seeking behaviour mainly in the company of peers [17]. In addition, adolescents in Nepal are becoming progressively more exposed to or betrothed in illegal activities, such as endeavors for manipulating tender deals; escalating small political clashes or quarrels between student unions; and attempts at controlling and preserving political situations.

Contentious figures on literacy, marital status and employment can be found in the literature. An illiterate and unmarried individual that is unemployed signifies the standard homicide victim based on our study. Current statistics from the Government of Nepal indicate that 38% of Nepalese youth are jobless. An unsteady political environment, destabilizing organizations and sluggish financial growth all possibly contribute to raising the chances of producing illiterate and poorly literate young adults that are influenced by various types of aggression leading to homicidal events. It is a malicious irony that those in our society who are already amongst the least enriched are most likely to experience the economic as well as emotional loss – through losing a loved one - as a victim of homicide. Also, employing data from a sample of 30 nations, a positive association was established between poverty and homicide [18].

Involvement of very few learned members of the Nepalese populace in homicides verifies the worth of

education, possibly because it may convey a considerable approach to life and commitment to different progressive vocations.

Lethal injury inflicted by sharp weapons and firearms were the methods of choice in 40 and 34 cases, respectively, representing 37.38% and 31.77% of total homicide cases in this study. Most of the homicidal injuries by light sharp weapons were multiple stab wounds revealing the assailant's highly expressed affect also found in other studies [19,20]. The majority of injuries inflicted by heavy sharp weapons were with the traditional Nepali "Khukuri". Homicides involving blunt trauma, noted in 26.16% of the reviewed cases, are challenging for the autopsy surgeon as exact history and the details of the crime scene are needed to corroborate and infer the findings from the dead body [21].

Suitable data are scarce on subject matter relevant to minute nationwide study considerations. Nevertheless, it is feasible to utilize government data,[22] where 3084 murders in the period between 2010 to 2013; and the Informal Sector Service Center's (INSEC) inspection system on small arms and handy dangerous weapons recorded an increase in armed brutality from 2010 (485 cases and 670 victims) to 2011 (702 incidents and 907 victims) [23].

The Arms and Ammunitions Act of Nepal controls the use of firearms, forbids trade, export or ownership, storage, production or improvising and the buying or selling of any sort of arms or ammunitions lacking a permit. Despite this, the execution of the act is very poor [24]. To facilitate the safety of the Nepalese people, the act should take major precedence in the public health plan [25].

It may be concluded that cultural settings influence the preference of a weapon, so it seems logical that the Khukuri is commonly used. Additionally, owing to the fact that there is increasing urbanization and an abrupt boost in uncompromising behaviors along with illegitimately traded, amply flowing and meagerly controlled firearms, they can be effortlessly obtained. Another foremost motive for using a firearm can be its convenience to use from a distance and the chance to escape easily.

The most frequent motive behind a homicidal event was an argument (39.25%) which eventually become violent, just as found in other studies [26]. It is relat-

ed to one the steady messages disseminated to youth growing up: always win. Therefore, when an argument goes wrong, one does not know how to deal and cope and becomes excruciatingly humiliated and eventually resorts to an ultimate act of cruelty to remedy lowered masculinity [27]. The act of brutal homicide provides an illicit occasion to dominate another and end an argument to reclaim the lost position, establish superiority and create an influential, triumphant, mannish personality. If an argument can lead to a homicidal event, what kind of society are we formulating? To obtain the profile of offenders, transgression trails of homicide offenders need to be scrutinized with focus on the psychological perceptions linking offence and characteristics of the offender [28]. A person who has established their realization of "the self" (according to our Eastern philosophy) will not be involved in such activities. It is high time we start motivating people to move towards their inner "self-realisation" and thus detaching themselves from violence.

Our findings of ethanol being present more commonly in blood of male victims as compared to females is also supported by other work in this area [12,29], reflecting the lifestyle of the people in Nepal in accordance with a local saying "Surya asta, Nepal masta" (meaning: Nepal drowns in alcohol after sunset).

It may be concluded that endeavors to avert homicide will not be effective unless the concerned authorities address those who are most at risk of becoming a victim. In order to take control of this problem, there is a desperate requirement for a multi-factorial outline for scrutiny and action necessitates addressing basic human advancement in matters like education, employment, social justice and medical care, along with a prospective evaluation of the homicide victim profile and immediate preventive intercessions at the national, societal and medical level to save their life.

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Conflict of interest statement

The authors have no conflicts of interest to declare.

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