

Pattern of Injuries in Physically Assaulted Victims in Mid Southern Region of Nepal

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ABSTRACT

Background: Among injuries by various ways physical assault contributes significantly. Further in underdeveloped countries like Nepal many such cases end to fatality. So this study aims to find the pattern of injuries present in physical assault cases presented to a tertiary care centre of mid southern region of Nepal.

Methods: A descriptive cross-sectional study was conducted among 210 cases selected among physically assaulted victims coming to emergency department of National medical college and teaching hospital, Birgunj from February 2022 to February 2023 over a period of a year. Ethical approval was obtained from Institutional Review Committee (IRC) of the same institute (Ref: F-NMC/583/078-079). Informed consent was taken from victims or from their guardians. Data was collected through examination and using preformed proforma consisting of socio-demographic profile as well as medicolegal examination. Data was collected using preformed proforma and analyzed using Statistical Package for Social Science (SPSS) version 2023.

Results: Out of 210 cases of physical assaults, most of the victims were assaulted by Blunt weapon (60.5%) i.e., bamboo sticks, wooden stick, rod, helmet followed by Kicks and fist (31.0%), sharp object (6.2%) and pointed (2.4%). In most of the cases weapons were heavy (52.9%). Most of the assaulted victims had simple injury (85.7%) followed by grievous injury (11.4%) and life threatening (2.9%). Abrasion (64.3%) was most common type of injury.

Conclusion: Physical assault commonly caused by blunt weapons and head is usual target. Unemployment and alcohol intoxication are major factors contributing to interpersonal violence in mid southern region of Nepal.

Keywords: Physical assault, violence, grievous, examination.

INTRODUCTION

Violence is deliberate application of bodily force or strength, coerced or real, against oneself, another person or against a set of people or community that results in high likelihood of inflicting injury, death, psychological harm, mal-development or deprivation (1). Daily incidence of physical assault without fatality around globe is tens of thousands in numbers resulting in

physical, sexual and psychological disturbance, most of which remain unnoticed (2). It is the duty of the physicians and medico-legal experts posted in the emergency to examine, to prepare report and to inform the police besides providing treatment (3). Among 6.31% increment in all injuries from the year 1990-2017 physical violence contributes 1.55% of increment in Nepal (4). According to the

study conducted on eastern region of Nepal, young male adults are more susceptible to physical assaults in the form of fits, fist, kicks and blunt object like bamboo sticks (5).

Very few studies have been carried out for adequate and accurate surveillance data in Nepal on trauma cases that arise as a result of physical violence. Hence, this study aims to study the pattern of physical assaults coming to emergency department of National medical college and teaching hospital for the sake of public health awareness as well as widen the knowledge regarding management of those injuries and solving the issues on the basis of medico-legal point of view.

MATERIALS & METHODS

A descriptive cross-sectional study was conducted among 210 cases selected by non-probability convenience sampling method among physically assaulted victims coming to emergency department of National medical college and teaching hospital, Birgunj from February 2022 to February 2023 over a period of a year. Ethical approval was obtained from Institutional Review Committee (IRC) of the same institute.(Ref: F-NMC/583/078-079), of same institute. Informed consent was taken from victims and in case of minor and patient with critical condition, consent was taken from their guardians. The patients were assured about the maintenance of their confidentiality and privacy.

Calculation of sample size done using the formula below.

$$n = Z^2 p (1-p) / e^2$$

$$= (1.96)^2 \times 0.159 \times (1-0.159) / (0.05)^2$$

$$= 206$$

Were,

n= required sample size

z= confidence interval (CI) at 95% (standard valve of 1.96)

P= prevalence for maximum sample size calculation, 15.9% (6)

q = 1-p

e = degree of accuracy desired, 5%

All the patient with the history of any types of traumas due to physical assaults visiting emergency department were included in this study. All the patient who meets the inclusion criteria were included and data was collected through examination and using preformed proforma which consist of identification data, day and time, cause, relationship between victim and assailant, type of weapon, type and severity of injury, part of body sustaining injury, fracture of bone, alcohol intoxication, various treatment and emergency department outcome.

Data was collected using preformed proforma and analyzed using Statistical Package for Social Science (SPSS).

RESULT

Over a period of one year a total 210 of alleged case of physical assault victims presented to emergency department of National medical college and teaching hospital, Birgunj. Among them majority (52.4%) were between 21-40 years of age which has been depicted in Table 1.

Out of 210 cases of injuries, 141(67.1%) were male and 69(32.9%) were female, with the ratio of male to female of 2.04:1. Majority of victims were of Bara district 83(39.5%), followed by Parsa 59(28.1%), Rautahat 47 (22.4%) and Sarlahi 21(10.0%). Most of them follow Hindu religion (77.1%) and Muslim (22.9). Among them 141(67.1%) were married and 69(32.9%) were unmarried. Majority of them 120(57.1%) were unemployed. Most of them 118(56.2%) were literate. Majority of the assault (30.5%) took place on Saturday. Most of them (41.0%) took place in between 4:00pm to 12:00am.

Table 1: Demographic profile of victims

Variables	Number(victim)	Percentage
Religion		
Hindu	162	77.1%
Muslim	48	22.9%
Age		

Below 20	45	21.4%
21-40	110	52.4%
Above 40	55	26.2%
Sex		
Male	141	67.1%
Female	69	32.9%
District		
Parsa	59	28.1%
Bara	83	39.5%
Rautahat	47	22.4%
Sarlahi	21	10.0%
Marital status		
Married	141	67.1%
Unmarried	69	32.9%
Education		
Illiterate	92	43.8%
literate	118	56.2%
Occupation		
Employed	90	42.9%
Unemployed	120	57.1%
Day of incidence		
Sunday	25	11.9%
Monday	22	10.5%
Tuesday	20	9.5%
Wednesday	27	12.9%
Thursday	25	11.9%
Friday	27	12.9%
Saturday	64	30.5%
Time of physical assault		
8am-4pm	54	25.7%
4pm-12am	70	33.3%
12am-8am	86	41.0%
Alcohol Intoxication by assailant		
Yes	139	66.7%
No	61	29.0%
Unknown	10	4.8%

Among all cases of injuries caused by physical assault majority (57.6%) were due to personal issue, followed by property dispute (13.8%) and dowry (2.4%). In majority of cases the relation between

victim and assailant were neighbor (36.2%), others were relatives (14.3%), friends (21.9%), spouse (8.1%) and stranger (19.5%). (Table 2)

Table 2: Cause of physical assault and relationship between victim and assailant.

Variables	Number	Percentage
Cause of physical assault		
Dowry	5	2.4%
Property dispute	29	13.4%
Personal issue	121	57.6%
Others	55	26.0%
Relationship between victim and assailant		
Spouse	15	7.1%
Friends	59	28.1%
Relatives	38	18.1%
Neighbors	56	26.7%
Unknown	42	20.0%

Out of 210 cases of physical assaults, most of the victims were assaulted by Blunt weapon (60.5%) i.e., bamboo sticks, wooden stick, rod, helmet followed by Kicks and fist 65(31.0%), sharp object 13(6.2%) and pointed 5(2.4%). In most of the cases weapons were heavy (52.9%). Most of the assaulted victims had simple

injury (85.7%) followed by grievous injury (11.4%) and life threatening 6(2.9%). Abrasion (64.3%) was most common type of injury followed by contusion (10%), laceration (7.6%), Multiple injuries (6.2%) and Incised (4.8%). Most of the individuals presented with injuries over head (25.7%)

followed by back (17.6%), face (11.04%) and abdomen (10.0%). (Table 3)

Table 3: Profile of injuries and weapons used.

Variables	Number	Percentage
Types of weapons used		
Sharp	13	6.2%
Blunt	127	60.5%
Pointed	5	2.4%
Kicks and fists	85	31.0%
Weapon according to weight		
Light	15	7.1%
Heavy	111	52.9%
Types of injury		
Abrasion	135	64.3%
Contusion	21	10%
Laceration	16	7.6%
Fracture	4	1.9%
Incised	10	4.8%
Multiple injuries	13	6.2%
Other injuries	11	5.2%
Part of body sustaining injury		
Head	54	25.7%
Abdomen	21	10.0%
Chest	15	7.1%
Back	37	17.6%
Upper extremity	30	14.3%
Lower extremity	16	7.6%
Face	24	11.4%
Multiple injuries	13	6.2%

Out of 210 cases of physical assaults examined, 154(73.3%) were provided conservational treatment, 50(23.8%) had to undergo minor surgery and 6(2.9%) had to undergo major surgery. Among all the individual 168(80.0%) did not required hospital admission and were discharged after conservative treatment in emergency department, 32(15.2%) were admitted in general wards and 6(2.9%) in ICU ward and 4(1.9%) left against medical advice.

DISCUSSION

The present study shows that majority of individual involved in violence are male than female which is also supported various studies (4,7). One of the reasons is men usually being the jobholder and they have to involve in outdoor activities. Individuals of age group between 21-40 years are more commonly involved in the physical violence according to this study. This fact is similar to the other studies (8,13). This age group are very active socially and physically and have to interact constantly to others in the matter of property, finance, networking and during these interactions they may involve

in arguments that could leads to create a situation of quarrel and assault.

Lack of job is one of the most striking findings in this study involving physical violence. Unemployment led to the worry, social isolation and monetary deprivation that further cause Impulsiveness and belligerence resulting into more violence activities. The study conducted in central Nepal showed similar result (5).

Physical assaults are more common in alcohol intoxicated person than non-alcoholic. Use of alcohol inhibits proper judgment and play a vital role in increasing hostility by raising unnecessary arguments (7,10).

In our study violence related injuries most commonly occur due to personal issue/interpersonal conflict, property dispute which is also similar to studies done in other countries (11,14,15). In country like Nepal, law and order is not properly handled by government, and there is unnecessary delay in judgments in civil cases by the court so people themselves become active to solve the issue that leads to creation of groupism

in personal or community level and ultimately ends into physical assault.

Our study shows that most of the physical assault cases occur on Saturday during evening to mid-night hours. Saturday being the holiday and at evening and night many people are out of the house for other pending activities of a week (5,11).

Blunt objects like bamboo, wooden sticks, rods, helmets are most commonly used, showing that the assault was not pre-planned as these objects are easily available at the site. Use of kicks and fits is the next common method. In few cases sharp and pointed object like knives khukuri were used showing the planned assault. Which is also supported by a study done in the western part of Nepal, it was found that wooden sticks and clubs were more common than kicks and fits (16).

The most common part of body sustaining injury in our study was found to be head. Similar result has been shown by various studies (8,16,17). Body parts next to head regarding physical assault in this study are back of the body and upper extremity (17). Ill intention of assailant causing more grievance and easy approach made the head as the common target for physical assault. Upper extremity injuries might be due its use as defensive purposes.

Abrasion is the most common type of external injuries followed by contusion which is also supported by Gal et al (14). Easily available items by surroundings are mostly of blunt types that produces abrasion or contusions.

The study showed that 11.4% of injuries were grievous, 2.9% lives threatening and 85.7% were non-grievous. The result is similar to other studies done in Nepal (7,18). Among all the assaulted patients most of them get discharged after conservative management.

CONCLUSION

Morbidities and mortalities as a result of injuries remain unacceptably high in impoverished countries like Nepal. Among injuries by various methods physical assault

contributes significantly. Unemployment and alcohol intoxication are the most common cause, these problems should be on top priority list by government to be resolved first for the prevention of physical violence. Strict rule and regulation should be made against purchasing and consumption of alcohol. Instructions and information regarding psychosocial issues, and awareness programmes should be conducted in various parts of county especially focus group being young adult Individuals. Similarly proper examination and reporting of injuries in cases of physical assault is of utmost important for delivery of justice.

Declaration by Authors

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