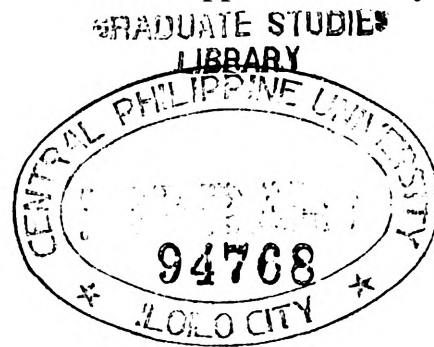


**Epidemiology of Acute Head Injury Among Patients  
in West Visayas State University Hospital  
Iloilo City**

**A Thesis  
Presented to  
the Faculty of the School of Graduate Studies  
Central Philippine University**



**In Partial Fulfillment of the  
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**by**

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# **EPIDEMIOLOGY OF ACUTE HEAD INJURY AMONG PATIENTS IN WEST VISAYAS STATE UNIVERSITY HOSPITAL, ILOILO CITY**

by

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## **ABSTRACT**

The study was conducted to determine the characteristics of victims of Acute Head Injury (AHI), the causes of their AHI, the diagnostic findings (in GCS score, CT scan and skull x-ray), interventions used and outcome upon discharge. It further aimed to determine whether there is a significant relationship between the selected personal characteristics of the patients and the causes, diagnostic findings, interventions used and outcome upon discharge.

This is a descriptive-retrospective study, which covered 460 patients admitted and diagnosed to have acute head injury at WVSU Hospital, Iloilo City from January 1999 to December 2000. The data were collected from hospital records and analyzed by computer using the SPSS + PC program.

The results of the study show that the victims of acute head injuries were mostly adults, and their average age is 27.66 years. Most of them were males, single, were not gainfully working at the time of the study, and were rural dwellers. Those working were mostly field-based.

Before the occurrence of their injury, most of the victims had taken alcohol. The two top leading associated injuries of AHI involved the skin, soft tissues and bones. Most of the victims received medical intervention and had good recovery. Based on GCS score, the majority had mild head injury. Those who had CT scan were found to have

more multiple lesions than those who had solitary/single brain lesion. The most common finding among those who had skull x-ray was linear skull fractures.

Cause of acute head injury is significantly associated with age, sex, occupation and residence. Respondents above seven years old were very prone to vehicular accidents, while those who were younger were prone to falls. Adults were also the common victims of assault. Male AHI victims outnumbered the female victims of AHI. More females than males suffered from vehicular accidents and falls, while more males than females were victims of assault. Most of the victims of AHI were working and those who were office-based were more prone to vehicular accident than those who were office-based. On the contrary, most of the latter met vehicular accidents and assault. There were more AHI victims among those living in the rural areas than those living in the urban areas. Vehicular accidents and fall were the prominent causes of AHI in both places.

Diagnostic findings based on GCS score was not significantly associated with age, sex, occupation and residence while CT scan result was significantly associated with age, sex, occupation and residence.

The CT scan results showed that brain injuries in each age group and multiple brain injuries were seen more in the elderly and the very young than in the other age groups. On the other hand, skull x-ray result *was* not significantly associated with age, occupation and residence, but was significantly associated with sex. Skull fracture was more common among male than female.

Outcome upon discharge of head injured patients was significantly associated with age, sex, and residence but not with occupation. Nine out of ten of the preschoolers,

school children and adults and seven out of ten in the elderly had good recovery. Severe disability and death cases were higher in the elderly than in other age groups. Both male and female had nine out of ten higher good recovery but death cases were found higher in male than females. Urban residents had higher incidence of good recovery inversely death cases were higher in the rural residents. Nine out of ten of the working group, both field and office based had good recovery. Death cases were higher in the office-based workers than the field based.

Intervention rendered to head injured patients was significantly associated with GCS score, CT scan and skull x-ray results but not with the causes of AHI. This medical or surgical intervention was significantly associated to the outcome upon discharge of head injured patients. Deterioration of the level of consciousness or GCS score, combined with the presence of brain injuries seen in the CT scan or the presence of depressed or linear fractures or combination of any of these, are indicative of surgical intervention to prevent irreversible brain damage. The causes of AHI whether vehicular accident, fall, assault and other are not the bases of surgical intervention.

## **Conclusions**

Based on the findings of the study, the following are the conclusions:

1. A person who has taken alcohol is more prone to accidents and therefore to acute head injury. Alcohol intake is a part of physiological factors within the individual which put him into a risk of becoming ill.
2. Adults are the common victims of acute head injury due to vehicular accidents and assaults. On the other hand, children are prone to fall. Males outnumber females as victims of acute head injury. Females were prone to vehicular

accidents and falls, while males have higher incidence of assault. Working individuals have higher cases of vehicular accidents especially office workers while field workers, are prone to assault. Rural folks are more prone to vehicular accidents and fall than those living in urban areas.

3. Males and females are prone to different degrees of head injuries. Field and office workers, irregardless of their residence, suffered different degrees of head injuries also.
4. Diagnostic findings on CT scan were influenced by occupation and residence but not by age and sex. Both young and old, male and female, suffered solitary and multiple brain injuries. Field workers have high incidence of multiple brain injuries while office based workers are prone to cerebral edema (brain swelling) and cerebral contusion (bruising of the brain).
5. Young and old, rural and urban residents, office and field based workers experienced different degrees of skull fracture. Males have higher incidence of skull fractures than females.
6. Good recovery were found more likely among individuals younger than 60 years old and while severe disability were common among older individuals. Urban dwellers have higher incidence of good recovery while deaths were higher among those living in the rural areas. The distance and financial constraints could contribute to the delay in saving the lives of the rural folks. Both office and field based workers had no cases of severe disability and had good recovery. Deaths is more common among office based victims than those working in the field.

7. Deterioration in the level of consciousness, accompanied by the presence of skull fractures and abnormal CT scan findings were the indicators for surgical operations. Surgery were done to reduce brain pressure and to avoid permanent brain damage. Medical or surgical intervention does not depend whether the cause of AHI is vehicular accident, assault, or fall rather on the indicators mentioned above.

### **Recommendations**

The following are recommended based on the findings of the study.

1. Since alcohol intake is the common circumstance before the occurrence of AHI, public awareness against it should be increased by massive campaign through mass media, and putting up signs or billboard along the accident prone areas.
2. Since vehicular accidents and falls are the common causes of AHI, traffic safety measures should be strictly implemented. Strict screening of applicants for issuance of driver's licenses should be implemented by the regulating government agencies. Traffic signs should be available, visible and strictly observation must be required. School children should have watchers during play or recreational activities to avoid accidents.
3. Since CT scanning was shown to be very important means of diagnosing brain injuries, government or city hospitals should have their own CT scan facilities and make them affordable to the less fortunate.

4. Hospitals should have an active, and effective trauma center to respond to the needs of trauma patients. Private and government hospitals should improve their facilities to respond to the changing trends and current knowledge in the treatment of acutely head injured patients.
5. Government and private sector should conduct massive and regular information drive regarding home, school and road safety. A place for elderly establishment must have facilities to avoid accidents.