

# Epidemiology of Unintentional Injuries among Select Youth in Peshawar Pakistan: A Mixed Methods Study

Sarwat Masud<sup>1</sup>, Uzma Rahim Khan<sup>1</sup>, Nadeem Ullah Khan<sup>1</sup>, Bilal Ahmed<sup>2</sup>, Pammla Petrucka<sup>3</sup>

<sup>1</sup>Emergency Department, Aga Khan University Pakistan, <sup>2</sup>Department of Internal Medicine, Aga Khan University, <sup>3</sup>Interim Dean of Research, University of Saskatchewan Canada

## Background

Unintentional injuries are a leading cause of morbidity and mortality among youth 15-24 years. The Global Burden of Disease-2013 (GBD-2013) study confirmed unintentional injuries as a major cause of death among youth. The World Health Organization reported one in five incidence of unintentional injuries within the Eastern Mediterranean Region (EMRO). Pakistan is a EMRO countries with a high burden of unintentional injuries among youth with an annual incidence of 46 injuries per 1000. GBD-2013 also highlighted the lack of statistics for older youth not engaged in school. Youth engaged in various vocational training institutes (VTI) are representative of diversity amongst youth. The overall aim is to undertake an epidemiological study on unintentional injuries among youth at VTIs in Peshawar, Pakistan, and capture perceptions of youth regarding their experiences with unintentional injuries.

## Research Objectives

1. To determine the epidemiology of all unintentional injuries among select youth enrolled at VTIs in Peshawar Pakistan
2. To qualitatively explore perceptions of unintentional injury experiences of youth who sustained an unintentional injury in the last year and are enrolled at VTIs.

## Methods



Figure 1: Location

A sequential explanatory mixed methods study was conducted between 2021-2022. A sample of 550 youth enrolled at vocational training centers in Peshawar Pakistan were surveyed using the WHO injuries survey tool. Retrospective data for previous 12 months were obtained and analyzed using STATA Corp 17.

Figure 2 Explanatory Sequential Design

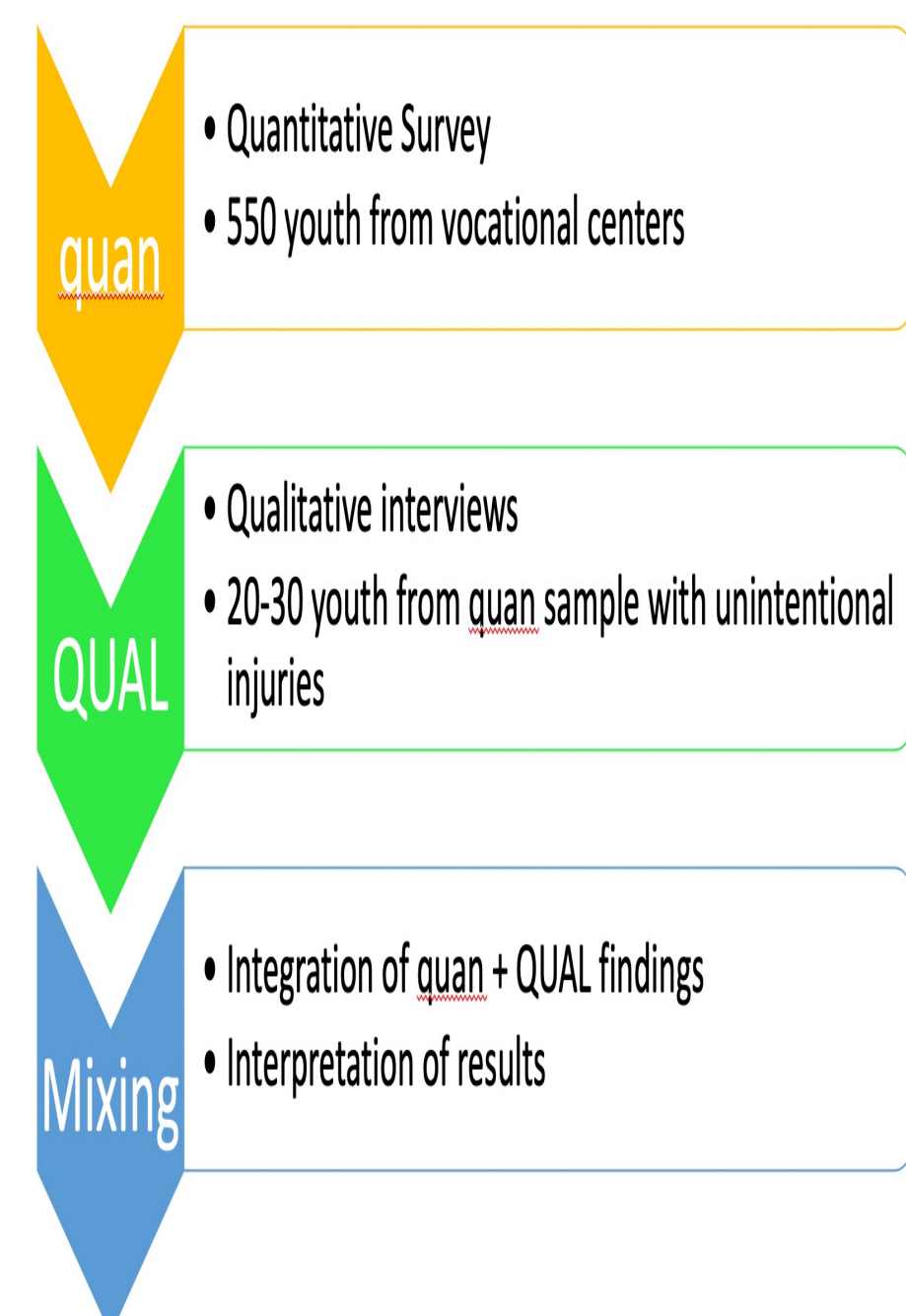
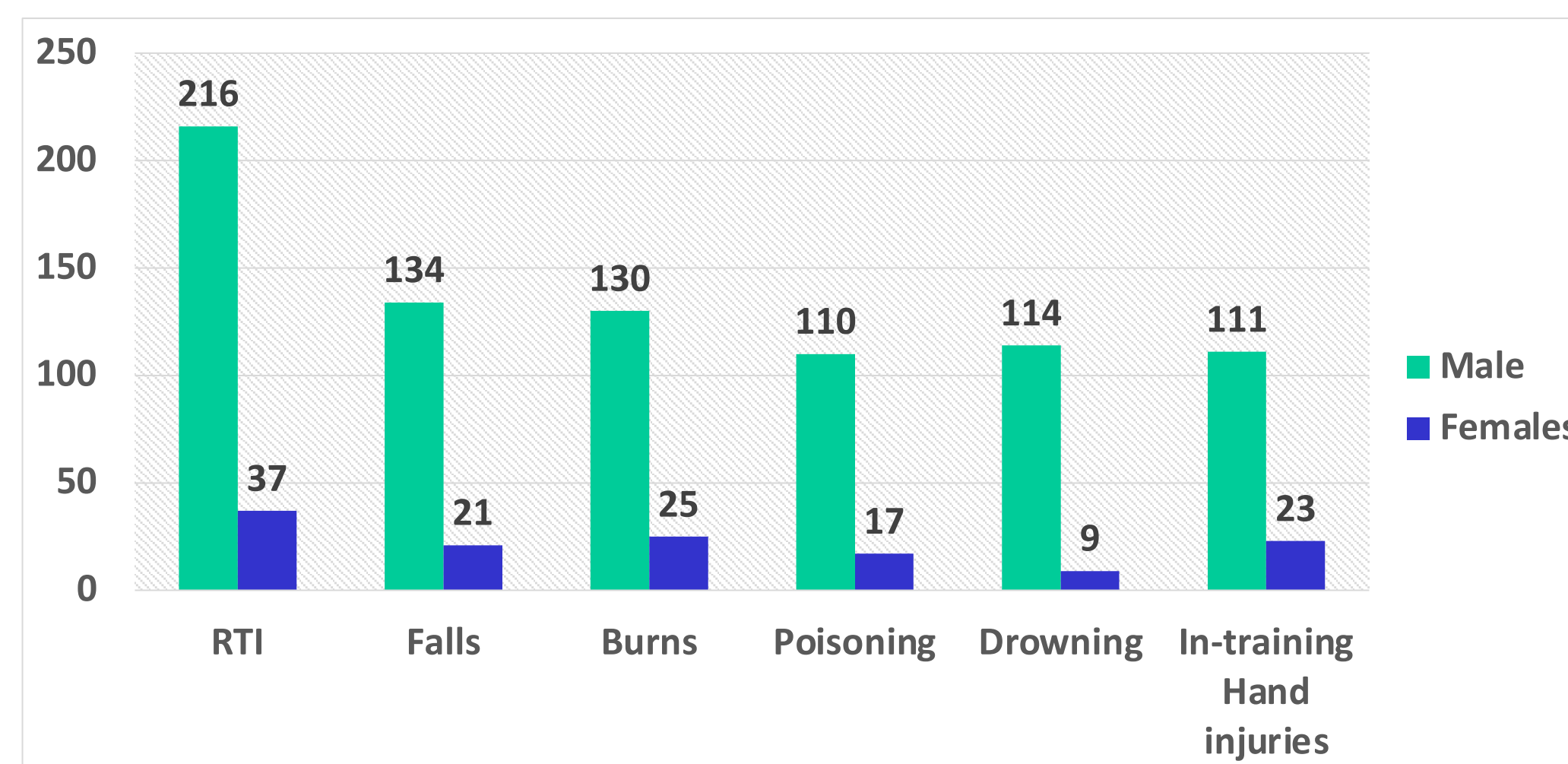


Figure 3. Unintentional injuries in male & females



## Preliminary Results

- 528 vocational students participated 360 (68%) males and 168 (32%) females. 947 injuries reported, on average 2 injuries per person. Road traffic injuries RTI were the most common unintentional injury among youth followed by falls, burns, poisoning and hand injuries during vocational training. Drowning accidents were least common.
- Incidence rate of all unintentional injuries are higher compared to older surveys of NHSP (Fatmi et al 2007) and NISP (Ghaffar et al 2004).
- Percentage of RTIs 47% is similar to recent 46% reported in Peshawar trauma registry (Tanoli et al 2021)

## Conclusions

Significantly higher findings[ a three-fold increase in unintentional injuries compared to the 1990-94 data] makes a case for a follow up study.

- Male to female incidence difference needs to be further explored, as there seems to be a sex association with respect to unintentional injuries.
- This is based on preliminary findings, and the study is ongoing.
- Unlike the previously published findings the road traffic accidents were managed as a type of injury rather as place of injury. But the findings in the current study would suggest a need for further exploration by sex and age group.

Table 1. Incidence and types of unintentional injuries among vocational youth in Peshawar Pakistan (2021-2022)

Variables	Frequency N=528(%)	Incidence per 1000 per year	95% Confidence Interval
Road Traffic Injuries	253 (47%)	920	772-1090
Falls	155 (29%)	415	342-502
Burns	155 (29%)	415	342-502
Poisonings	127 (24%)	360	257-387
Drowning	123 (23%)	303	264-372
In-training hand injuries	134 (25%)	134	393-263

Definition: An unintentional injury for which treatment was received or caused the participant to miss a half day or more of training/work/regular activities.

## Strengths and Limitations

- Part of a mixed methods with integrated results at conclusion.
- Includes youth who are underrepresented and vocational youth who are completely neglected in previous research
- Cross-sectional study, with reporting of retrospective incidence.
- Limited female representation, regional findings not nationally representative.

This research is funded by a collaborative fund of Johns Hopkins University and Aga Khan University, JHU-Af-Pak ICTIRT program which is an injury and trauma research fund.