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SUMR 2019

Consequences of Traumatic Injury (COTI): A Longitudinal Study

Project Overview

Prospective quantitative longitudinal study of factors that cause racial and ethnic pain disparities

Looks at the transition from acute to chronic pain after a traumatic physical injury

Short term objective

Identify intervention targets for reducing/eliminating racial and ethnic pain disparities.

Long term objective

Contribute to the reduction and elimination of racial and ethnic pain disparities.

Traumatic Injury

→ **Traumatic Injury**: physical injuries of sudden onset and severity which require immediate medical attention

→ Trauma is the #1 cause of death for people under 44

→ Black and Hispanic patients were found to have **20% to 50% greater likelihoods** of death respectively due to traumatic injuries

https://www.cdc.gov/injury/wisqars/pdf/10lcid_all_deaths_by_age_group_2010-a.pdf

https://www.theguardian.com/inequality/2018/feb/08/trauma-trap-whats-causing-inequalities-in-emergency-care

Pain Background

Inequalities exist in the pain treatment received by African-Americans and Latinos compared to their non-Latino and White counterparts.

https://www.ninds.nih.gov/sites/default/files/DisparitiesPainCare.pdf

Members of minority groups face disparities in pain treatment

➔ Primary care providers are more likely to underestimate pain intensity in blacks than in other socio-demographic groups

➔ Only **35% of racial minority patients** received appropriate pain medication v. **50% of nonminority patients** for treatment of metastatic or recurrent cancer

- Study by Cleeland et al, 1997

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4843483/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4843483/#r4

What contributes to pain disparities

Patient
→ mistrust of healthcare providers and health systems
→ Little access to healthcare

Insurance
→ insurance denying pain medicine coverage
→ patients lacking health insurance

Healthcare system
→ resource constraints in trauma centers serving ethnic minorities

Healthcare provider
→ dismissing degree of pain
→ perceived addiction/ criminality
→ apprehension in prescribing opioids
→ **bias in providers**

"There's a perception that trauma happens to certain types of people, who deserve it because they're from the wrong side of town, and even well-meaning, highly qualified people end up falling into that bias."

-Dr. Adil Haider, Trauma Surgeon and Pain Disparity Investigator

Historical Roots of Issue

"Blacks bear a Negro disease [making them] insensible to pain when subjected to punishment"
-Dr. Samuel Cartwright

Many white medical students and residents hold beliefs about biological differences between blacks and whites, often **false and fantastical** in nature, and these false beliefs are related to racial bias in pain perception.

-Study by Hoffman et al, 2016

We need to understand why race and ethnicity link to pain inequalities and how to best address these disparities.

Specific Aims

Determine the degree...

1. African-American and Latino physical injury survivors **experience more severe pain** following injury relative to their non-Latino White counterparts
2. African-American and Latino injury survivors experience **greater pain burden** relative to their non-Latino White counterparts

With that information, we can see if African-American and Latino differences in pain severity or pain burdens can be linked to **targets for interventions** aimed to reduce or eliminate pain outcome disparities

Significance

Knowledge from this study has the potential to accelerate efforts aimed at eliminating pain disparities by identifying promising targets for prevention and intervention efforts to **close the pain gap.**

Results will be communicated to:

- ➔ Health care providers who care for physical trauma survivors (conferences, peer-reviewed journals, in-service trainings)
- ➔ Lay public in press releases
- ➔ Policy makers to see where findings can be transferred to policy

Study Design

- Multi-site, longitudinal study at Level 1 Trauma Centers
  - Baylor University, Dallas, TX
  - Penn Presbyterian Medical Center, Philadelphia, PA
- Expected enrollment of 900 participants across both sites
- Participants randomized for entry to have equal quantity of participants in each racial and ethnic group

Procedure

- ~1 hour Baseline Interview in private, patient rooms in Penn Presbyterian Hospital
  - Patients given $40 gift card for their participation
- 3 Month Follow-Up Interview in Home
- 12 Month Follow-Up Interview in Home

Instruments of Survey

- ➔ In the baseline survey, we collect information about pain, mechanism of injury, demographic information, pre-injury work status, acute psychological responses, previous experiences with pain
- ➔ Participants given a variety of scales and visual aids to assist in giving answers

Subject Recruitment

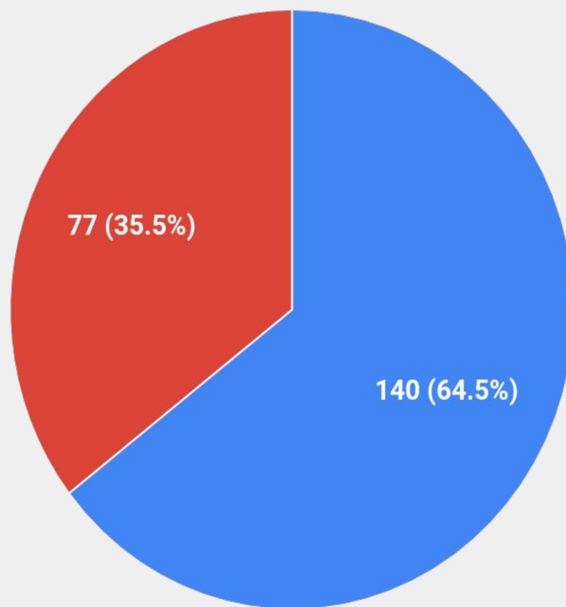
- ➔ Use of computerized database to identify eligible participants
- ➔ Eligible participants are then presented by the nurse who obtains consent from the patient to participate

Inclusion Criteria:

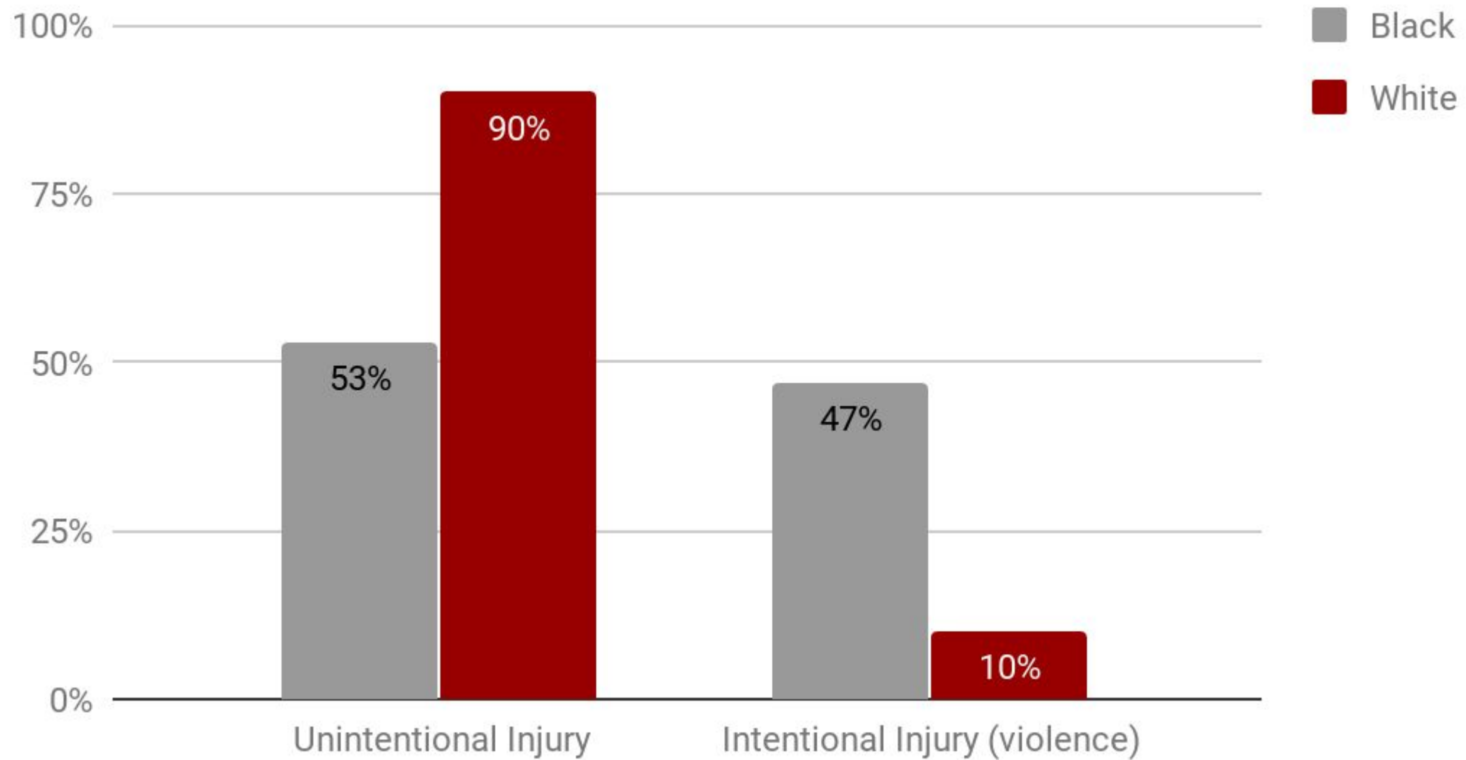
- ➔ Hospitalization for physical injury (violence, vehicle incident, fall, or other) for >24 hours
- ➔ Adult Status (18-65)
- ➔ Fluency in English or Spanish
- ➔ No moderate/severe traumatic brain injury
- ➔ Ability to provide consent

Demographics: Gender Breakdown (Penn Only)

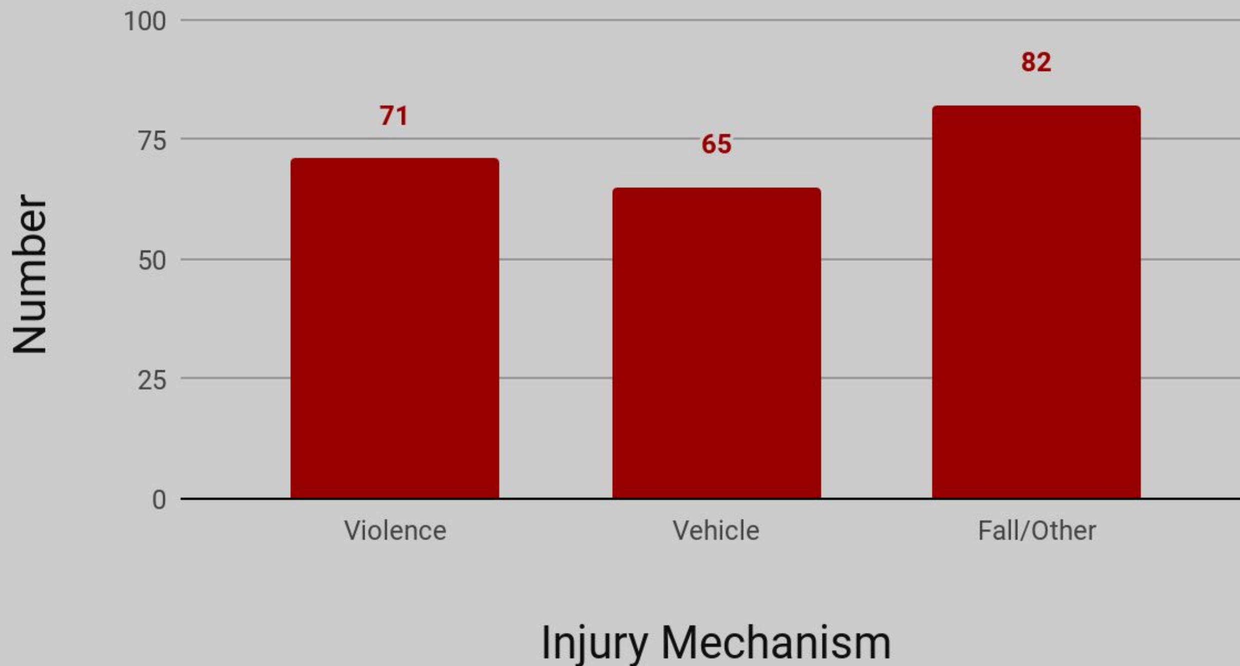
Gender	Number (n=217)
Male	140
Female	77



Demographics: Racial Breakdown (Penn Only)

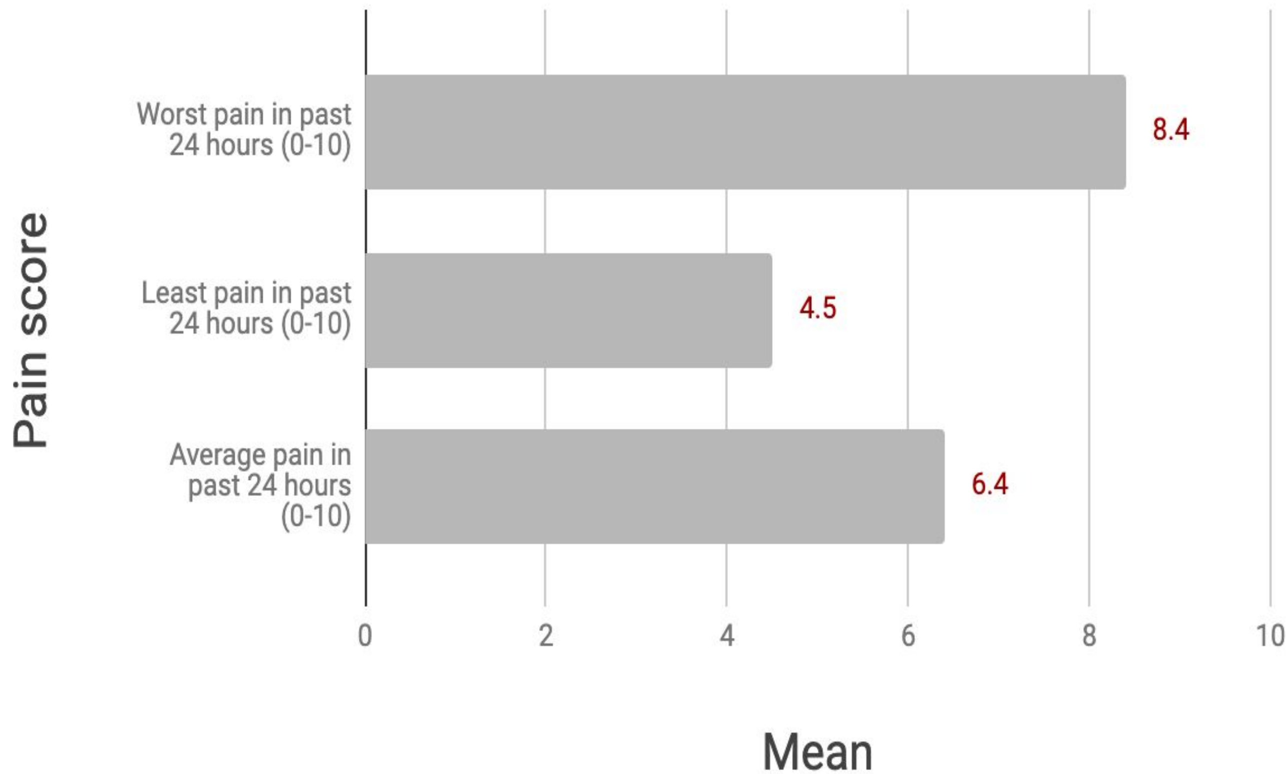


Preliminary Findings (Penn Only)



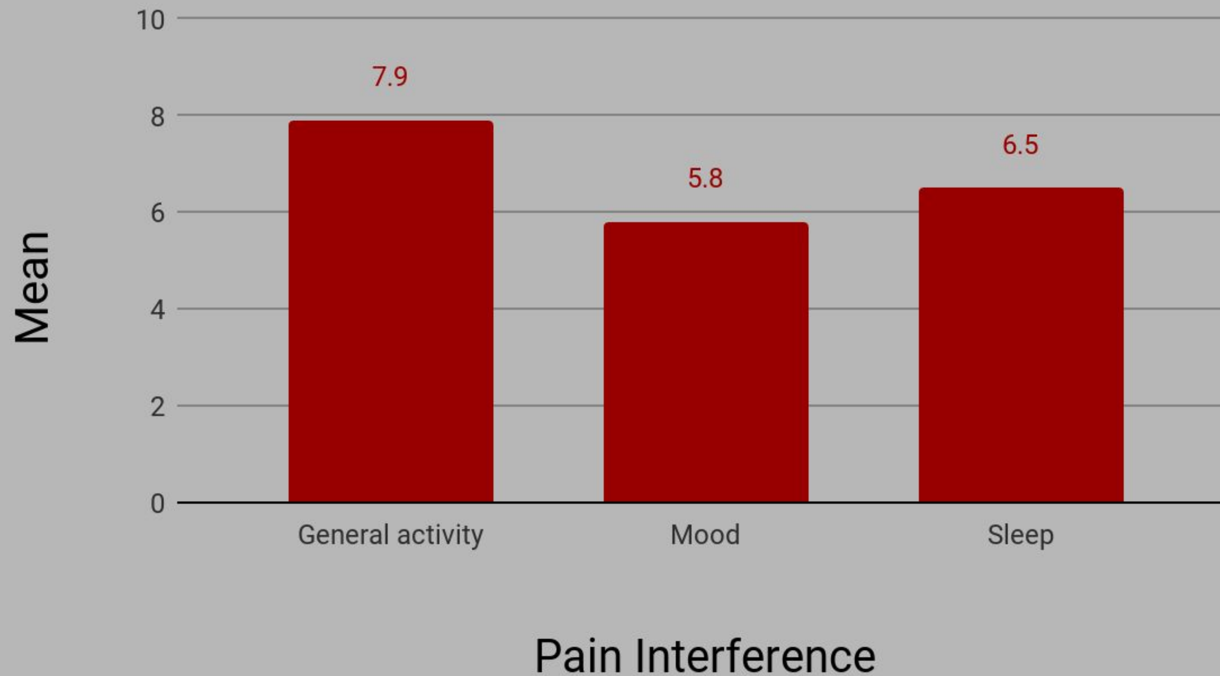
Injury Mechanism	Number (n=218)
Violence	32.7% (71)
Vehicle	30% (65)
Fall/Other	37.8% (82)

Preliminary Findings (Penn Only)



Pain Score	Mean (SD)
Worst Pain	8.4(2.2)
Least Pain	4.5(2.7)
Average Pain	6.4(2.5)

Preliminary Findings (Penn Only)



Pain Interference	Mean (SD)
General Activity	7.9(3.1)
Mood	5.8(3.8)
Sleep	6.5(3.8)

Overview of Our Roles

- ➔ In-Hospital Interviews
  - ◆ 22 Completed Interviews
- ➔ Shadowing In-home Follow-ups
- ➔ Scheduling
- ➔ Literature Reviews

Training v. Our Experience

Training with RAND

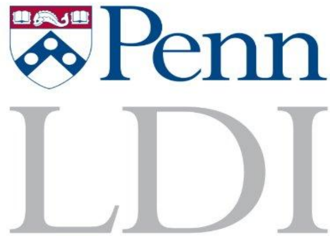
- ➔ Best interviewing techniques
- ➔ How to avoid refusal/ gain cooperation
- ➔ Need to leave good impression (longitudinal study)
- ➔ Focus on remaining neutral/not leading answers
- ➔ Being empathetic with patients
- ➔ Consequences of science misconduct (name **blacklisted** if answers fabricated)

Actual Experience

- ➔ Managing expectations and practicing patience
- ➔ Not as scary as trained to handle
- ➔ Most patients enjoy the company and talking with someone
- ➔ Focus on speaking confidently in front of patient
- ➔ Building repertoire throughout the interview

Lessons Learned

Acknowledgements



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Questions?