

Social Determinants of Health in Trauma: A Preliminary Study

Nate Harshaw, BS; Hoi Lam BS; Kellie Bresz, MS; Catherine Ting Brown, BS; Lindsey L. Perea, DO, FACS

Penn Medicine Lancaster General Health

Trauma and Acute Care Surgery

BACKGROUND

- Social determinants can influence clinical outcomes such as morbidity and mortality rates in trauma patients
- The characteristics of trauma patients relative to risk status for social determinants include tobacco usage, intimate partner violence, and stress.
- We conducted a preliminary analysis to determine if any social determinants would affect outcomes in trauma patients
- We hypothesized that patients with an “at risk” classification for any of the social determinants will have a greater likelihood of negative outcomes when compared to their “not at risk” counterparts**

METHODS

- Retrospective study of data from January 2021 to February 2022 at our Level I Trauma Center
- All patients with data on one or more social determinants of health were included
- For each social determinant, patients were indicated as “at risk” or “not at risk” based on information present in their medical records
- Social determinants with at least a 60% collection rate were included

	Outcome	At Risk	Not At Risk	P-Value
Tobacco		n=1080	n=867	
	Mortality ^a	56 (5.19)	31 (3.58)	0.088
	30-day readmission ^a	33 (3.06)	24 (2.77)	0.703
	30-day mortality ^a	96 (8.89)	54 (6.23)	0.029
	Complications ^a	74 (6.85)	45 (5.19)	0.128
	Hospital LOS ^b	3 (1-6)	3 (1-6)	0.100
	ICU LOS ^b	0 (0-1)	0 (0-1)	0.002
	Ventilator days ^b	0 (0-0)	0 (0-0)	0.001
Functional Status at Discharge ^c	17.8 (2.76)	17.5 (3.00)	0.046	
IPV		n=41	n=1856	
	Mortality	0 (0)	65 (3.51)	0.222
	30-day readmission	2 (4.88)	57 (3.07)	0.511
	30-day mortality	1 (2.44)	124 (6.68)	0.279
	Complications	0 (0)	124 (6.68)	0.087
	Hospital LOS	3 (1-5)	3 (2-6)	0.887
	ICU LOS	0 (0-0)	0 (0-1)	0.149
	Ventilator days	20 (0-0)	0 (0-0)	0.324
Functional Status at Discharge	18.3 (2.31)	17.7 (2.77)	0.238	
Stress		n=368	n=1249	
	Mortality	9 (2.45)	40 (3.21)	0.454
	30-day readmission	13 (3.54)	44 (3.53)	0.988
	30-day mortality	20 (5.43)	78 (6.24)	0.567
	Complications	28 (7.61)	72 (5.76)	0.197
	Hospital LOS	4 (2-7)	4 (2-7)	0.154
	ICU LOS	0 (0-1)	0 (0-1)	0.997
	Ventilator days	0 (0-0)	0 (0-0)	0.433
Functional Status at Discharge	17.5 (2.63)	17.7 (2.65)	0.391	

Table 1. Characteristics of Trauma Patients Relative to Risk Status for Social Determinants. a n (%); b Median 50% value, (interquartile range 25%-75%); c Mean (Standard Deviation); Total n varies for each social determinant depending on data completeness (LOS- length of stay, ICU- Intensive care unit, IPV- Intimate Partner Violence)

% Reported	Social Determinants
>60%	Tobacco usage
	Stress
	Intimate partner violence
<40%	Alcohol use
	Food insecurity
	Transport needs
	Physical activity
	Social connections
	Depression
	Housing stability

Table 2. Social determinants breakdown

RESULTS

- 2,225 trauma patients included in study
- Multiple social determinants had less than 40% reporting rate

CONCLUSIONS

- Tobacco usage was significantly associated with 30-day mortality
- Tobacco usage was significantly associated with more days on a ventilator and in the ICU
- Findings demonstrate a paucity of data regarding patients’ social determinants of health in electronic medical records of our trauma patients
- In the future, collecting data related to the social determinants of health could be useful to clinicians in guiding treatment - ongoing studies at our institution are evaluating this for our patients’ outcomes



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