

Physical, Emotional/Psychological and Sexual Abuse Analysis based on Victim Characteristics

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Abstract

- In an attempt to understand the differences between the victims of physical, emotional/psychological and sexual abuse, data from the Healthcare Cost and Utilization Program (HCUP) from Arizona were evaluated. Data from 2007 until 2012 was received from public health records and then was analyzed by comparing patient characteristics for victims of different types of abuse.
- 3369 cases of abuse were evaluated, 2836 cases of physical abuse, 55 cases of emotional abuse and 478 cases of sexual abuse. All victims of emotional abuse were females and have a higher average age. Other statistically significant findings include: an elevated occurrence of psychosis as a chronic condition in victims of emotional abuse and sexual abuse, an increased number of chronic conditions listed in patients diagnosed with emotional abuse and an increased number of surgeries and procedures required in patients diagnosed with physical abuse.
- The five most common associated diagnoses regardless of type of abuse are superficial injuries/contusions, intracranial injuries, skull/facial fractures, crushing/internal injuries and other fractures. All of these are seen most in patients with physical abuse. With respect to gender, it was found that skull and facial fractures are much more common in females who suffered from physical abuse than males.

Introduction

It is estimated that 25-35% of women and men in Western countries have experienced Intimate Partner Violence (IPV). Research has been performed indicating that there are long term effects of physical and emotional problems including associations with higher rates of mental illness and substance abuse. However, most research has been geared towards females as the victims of abuse. Research looking at the risk factors and long-term outcomes of male abuse victims has been limited. For this reason, this study was designed to determine the associated diagnoses and demographic factors which are associated in victims of physical, emotional/psychological and sexual abuse in both males and females presenting to Emergency Departments in Arizona.

Methods

This study is a retrospective analysis of de-identified public health records from emergency department visits obtained from the HCUP dataset from 2007 until 2012 with particular interest in the visit with International Classification of Diseases (ICD) – 9 codes for adult physical abuse (995.81), adult emotional/psychological abuse (995.82) and adult sexual abuse (995.83). Additional information evaluated from the HCUP report includes: age range, payer type, median income for patient zip code, patient residence, hospital owner, teaching status, location, trauma center designation, other diagnoses codes, chronic conditions, number of procedures performed, and patient disposition status. Univariate linear regression is used to compare the continuous variables from the data set. Chi-squared/Fisher's exact calculations are used to compare data with categorical variables. A p-value of 0.05 is used to indicate statistical significance.

Results

Patient Characteristics

Variables	Physical Abuse N=2836	Emotional Abuse N=55	Sexual Abuse N=478	P-value
Age (Mean, 95% CI)	47.4 (45.7, 49.1)	62.1 (50.3, 73.8)	43.0 (38.9, 47.2)	0.006
Gender (Female %, 95% CI)	86.4 (83.2, 88.9)	100	91.8 (84.4, 95.9)	0.21
Alcohol abuse (% , 95% CI)	18.9 (15.8, 22.3)	0 (0.0)	20.8 (13.8, 30.1)	0.27
Depression (% , 95% CI)	13.5 (10.9, 16.6)	17.9 (4.47, 50.4)	12.4 (7.15, 20.7)	0.76
Diabetes, Uncomplicated (% , 95% CI)	10.5 (8.25, 13.4)	18.9 (4.74, 52.2)	13.4 (7.87, 21.7)	0.34
Diabetes, Complicated (% , 95% CI)	2.12 (1.21, 3.71)	9.11 (1.25, 44.1)	2.05 (0.051, 7.87)	0.26
Drug Abuse (% , 95% CI)	14.3 (11.6, 17.5)	0 (0.0)	18.6 (12.1, 27.8)	0.22
Hypertension (% , 95% CI)	30.9 (27.2, 34.8)	43.5 (18.9, 71.8)	23.1 (15.6, 32.7)	0.098
Obesity (% , 95% CI)	4.84 (3.36, 6.94)	0 (0.0)	5.11 (2.13, 11.7)	0.88
Psychosis (% , 95% CI)	12.5 (9.95, 15.5)	26.5 (8.69, 57.8)	25.4 (17.6, 35.1)	0.002

Outcomes and Hospital Characteristics

Variables	Physical Abuse N=2836	Emotional Abuse N=55	Sexual Abuse N=478	P-value
Total Charges (Mean, 95% CI)	38083.9 (32673.1, 43514.6)	15062.5 (10542.0, 19582.9)	25623.4 (16412.9, 34833.9)	0.11
# of Chronic conditions (Mean, 95% CI)	3.02 (2.80, 3.24)	5.68 (3.59, 7.76)	3.97 (3.34, 4.60)	0.002
Major Operating Room indicator (% , 95% CI)	24.5 (20.8, 28.6)	0 (0.0)	10.3 (5.42, 18.8)	0.007
# of Procedures (Mean, 95% CI)	1.41 (1.21, 1.60)	0.14 (-0.11, 0.39)	0.85 (0.55, 1.17)	0.099

Subsequent Diagnosis Categories

Variables	Overall N=3369 %, 95% CI	Physical Abuse N=2836 %, 95% CI	Emotional Abuse N=55 %, 95% CI	Sexual Abuse N=478 %, 95% CI	P-value
Superficial injuries / Contusion	33.7 (30.1, 37.3)	35.4 (31.5, 39.9)	10.1 (1.41, 46.9)	16.2 (18.3, 35.9)	0.045
Intracranial Injuries	16.9 (14.3, 20.0)	18.9 (15.9, 22.4)	0 (0.0)	7.17 (3.44)	0.004
Skull / Facial Fractures	15.2 (12.7, 18.2)	17.4 (14.5, 20.8)	0 (0.0)	4.15 (1.56, 10.6)	<0.001
Crushing / Internal Injuries	11.2 (9.06, 13.9)	11.7 (9.28, 14.6)	0 (0.0)	9.77 (5.30, 17.3)	0.73
Other Fractures	10.7 (8.67, 13.4)	12.3 (9.88, 15.3)	0 (0.0)	2.81 (0.90, 8.43)	0.009

Associated Diagnoses by Gender

Associated Diagnoses	Males N=424	Females N=2945	P-value
Skull / Facial Fractures	5.66 (2.37, 12.9)	16.6 (13.8, 19.8)	0.01
Intracranial Injuries	15.2 (9.03, 24.5)	17.3 (14.4, 20.5)	0.63
Crushing / Internal Injuries	9.33 (4.71, 17.6)	11.5 (9.17, 14.3)	0.55
Superficial injuries / Contusion	26.2 (17.9, 36.5)	34.7 (30.9, 38.7)	0.16
Other Fractures	11.2 (6.11, 19.7)	10.7 (8.47, 13.5)	0.81

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Discussion

- Victims of emotional abuse are all females and are found to have a higher average age (62.1 years old, 95% CI = 50.3-73.8 years old; compared to physical abuse average age = 47.4 years old and sexual abuse average age = 43.0 years old).
- Strong correlation between a chronic diagnosis of psychosis in emotional abuse (26.5%, 95% CI 8.69-57.8) and sexual abuse victims (25.4%, 95% CI 17.6-35.1) compared to victims of physical abuse (12.5%).
- Increased number of chronic conditions listed in patients diagnosed with emotional abuse (mean number = 5.68, 95% CI = 3.59-7.76).
- Victims of physical abuse have a higher average total charge (\$38,083.90) from the emergency department which may be due to the association with more procedures (1.41, 95% CI = 1.21-1.60) and operations (24.5% of patients, 95% CI = 20.8-28.6%).
- Superficial injuries/contusions, intracranial injuries, skull/facial fractures, crushing/internal injuries and other fractures are seen most in abuse cases, with the highest rate of these diagnoses in patients with physical abuse.
- Significantly larger portion of females who suffer skull and facial fractures compared to males. Female patients effected by physical abuse are nearly three times more likely to be diagnosed with a skull or facial fracture (16.6% of females, 95% CI = 13.8-19.8; 5.66% of males, 95% CI = 2.37-12.9; p-value = 0.01).

Limitations: this data was collected from patients that were identified as victims of abuse and will not analyze patients who were missed. This data is also only collected from those who sought medical attention.

Conclusions

Although this evaluation of Arizona Emergency Department visits from 2007-2012 does not identify significant characteristics or criteria that could help screen for males at risk for abuse, this study does show the stark difference in the chronic and acute diagnoses associated with the three different types of abuse. Physical injuries are found more often in patients who had been physically abused and psychological disorders are seen more often in patients who had been emotionally or sexually abused. These results were found regardless of the gender of the patient.

As initially hypothesized, women do have a higher rate of skull and facial fractures compared to males when physically abused. This study did not confirm the hypothesis that males have a higher ratio of physical abuse compared to other types of abuse. However, there were no male victims of emotional abuse. This avenue of research needs to be further evaluated. Additional data needs to be obtained in order to further evaluate possible gender differences in patients found to be abused physically, emotionally or sexually.