INTIMATE PARTNER VIOLENCE SCREENING PRACTICES AT THE UNIVERSITY OF KANSAS HOSPITAL EMERGENCY DEPARTMENT

By

Viktoriya Tulchinskaya

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Chairperson Catherine L. Satterwhite, PhD, MSPH, MPH

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Megha Ramaswamy, PhD, MPH

_____

Andrew Park, DO, MPH

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The Thesis Committee for Viktoriya Tulchinskaya

certifies that this is the approved version of the following thesis:

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Chairperson Catherine Satterwhite, PhD, MSPH, MPH

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Abstract

Background: The United States Preventive Services Task Force recommends intimate partner violence (IPV) screening for all women of reproductive age. The emergency department (ED) represents an important venue for screening an at-risk population who may not regularly access health care services. However, among EDs that implement an IPV screening protocol, the current rates of screening are unknown.

Objective: To describe the frequency and correlates of IPV screening at the University of Kansas Hospital ED, where all patients should be routinely screened for IPV.

Methods: A retrospective chart review was conducted among a convenience sample of women and men aged 18-44 who visited the University of Kansas Hospital ED during the first calendar week of 2015: January 4-10. Patient demographics, IPV screening status (whether or not patients were screened for IPV), and ED visit characteristics were collected. IPV screening status was compared by age, gender, race, ethnicity, primary language, need for interpreter, use of interpreter, number of previous ED visits, chief concern, insurance type, and pregnancy status and contraception methods, when applicable. IPV screening status was also compared by time and day of ED.

Results: Of the 280 patients with an eligible ED visit, 66% were screened for IPV. Patients whose arrival time was at night (between 7pm and 7am) were significantly less likely to be screened that patients visiting during the day (56% vs. 72%, respectively, $p < 0.01$). Patients who came to the ED during the work week (Monday through Friday) were also less likely to be screened for IPV when compared to patients visiting the ED on the weekend (63% vs. 84%, $p < 0.01$). No patient screened positively for IPV.

Conclusions: Despite goals to routinely screen, 34% of all patients were not screened for IPV at their ED visit. The frequency of screening did not differ between men and women. Patients who arrive to the ED at night or during the work week are less likely to receive IPV screening. A different tool may need to be considered to screen ED patients for IPV.

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Table of Contents:

Introduction

Although frequently used interchangeably with terms like “domestic violence,” “family violence,” and “abuse,” “intimate partner violence” refers to assaultive or forced behaviors propagated by one individual towards another with whom he or she has previously been, currently is, or wishes to be in an intimate relationship [1]. Intimate partner violence (IPV) encompasses threatened, attempted or completed violence of a physical, sexual, psychological, or emotional nature [2]. While IPV penetrates every segment of the population, women experience it more commonly than men. Estimates suggest that 1.5 to 4 million women are abused by an intimate partner in the United States yearly, resulting in almost 1,500 deaths and over 2 million injuries annually [2]. The lifetime odds of experiencing IPV among women is between 1 in 3 and 1 in 2 [1]. However, men are not safeguarded from IPV, either; the lifetime prevalence of IPV among men is between 1 in 4 and 1 in 3 [3]. Perpetrators of IPV against women tend to afflict sexual and physical harm more frequently than psychological or emotional abuse; perpetrators of IPV against men tend to afflict nonviolent or mildly violent abuse on their partners [3]. In fact, this is in stark contrast from IPV findings among women: sexual violence is much more commonly reported among women than men [4]. Fewer than 1% of men who have experienced IPV report lifetime sexual IPV [4].

Individuals who have experienced IPV—regardless of gender—experience higher rates of poor physical and mental health outcomes [3, 4]. They are significantly more likely to experience severe depressive symptoms and symptoms of post-traumatic stress disorder (PTSD) [3]. Among women, especially, the injuries, terror, and stress associated with IPV frequently results in chronic illness, especially central nervous system symptoms like repeated episodes of syncope and seizures [4]. This is often due to choking or incomplete strangulation and head

trauma from blows to the head [4]. However, every organ system is disproportionately and negatively affected among women who have endured IPV. These women experience digestive problems, abdominal pain, urinary infections, gynecological problems including vaginal infections, sexually transmitted infections (STI), and pelvic pain, headaches, fainting, convulsions, back and neck pain, influenza, hypertension, and other afflictions at higher rates than women who have not experienced IPV [4]. Additionally, depression, PTSD, and suicidal ideation have been reported at higher rates among women with a history of IPV [4]. Women experiencing IPV are a highly vulnerable population in substantial need of intervention from the greater community, and the medical community has a unique opportunity to play a role in screening.

Upon reviewing evidence around the impact and outcomes of IPV, the United States Preventive Services Task Force (USPSTF) updated the recommendation for intimate partner violence screening in a health care setting [5]. In January 2013, the USPSTF released the following summary: "The USPSTF recommends that clinicians screen women of childbearing age for intimate partner violence (IPV), such as domestic violence, and provide or refer women who screen positive to intervention services" [6]. This recommendation is in accordance with many other statements previously released by medical organizations like the American College of Obstetrics and Gynecology (ACOG), the American Medical Women's Association, and the American Medical Association (AMA). In fact, ACOG published a statement in 2002 announcing "the need for physicians to screen every patient at regular, ongoing intervals for current or past abuse" [7].

With these recommendations in place, one health care setting that may represent an important venue for screening an at-risk population who may not regularly access health care

services is the ED. Between 2% to 14% of female patients presenting to the ED visit due to injuries or illnesses that resulted from IPV [8, 9]. Furthermore, up to 38% of female patients in the ED have experienced IPV during the last 12 months [8], while other studies indicate that the number may be closer to 54% [1, 9]. Also important to consider is the fact that among women who have been murdered by their IPV perpetrators, 44% of them present to the ED within 2 years of their deaths [10]. Given this, the ED is a critically-important health care setting that needs to be investigated for its effectiveness as a venue for IPV screening. The current study, specifically, aimed to answer the following questions:

1. What is the frequency of IPV screening among the vulnerable age group of patients presenting to the KU Hospital ED?
2. What is the frequency of IPV screening among patients for whom IPV screening is recommended?
3. What patient factors and ED visit factors correspond to a higher or lower odds of receiving screening?
4. What suggestions could improve IPV screening in the ED?

With current efforts focused on establishing IPV screening protocols in health care facilities, little attention has been devoted to measuring the actual rates of IPV screening once protocols have been implemented. Thus, this study will fill a significant gap in current knowledge by providing insight into the prevalence of IPV screening within such health care settings. This crucial information may lead to improved screening approaches that better identify victims of IPV and connect them to life-saving resources.

Methods

Study Design and Population

This was a retrospective (historical) chart review of a convenience sample of all men and women of age 18-44 who visited the ED of the University of Kansas Hospital. At random, the first calendar week of 2015 was selected as a sample time-frame. Thus, the dates of interest were 01/04/2015 through 01/10/2015. Relevant patient charts from the University of Kansas Medical Center's electronic medical record were selected through the use of HERON (Healthcare Enterprise Repository for Ontological Narration). The query yielded 360 eligible charts. An additional exclusion criteria was applied, which eliminated the charts of patients who had been immediately admitted to the hospital, or left the ED prior to seeing healthcare staff. Upon applying the exclusion criteria, all 280 remaining charts were reviewed.

Determination of Screening Status

The outcome variable was "screening status," or, in other words, whether a patient had been screened for IPV. Screening status was determined by examining patients' electronic medical record for the date of ED admission. Specifically, the entry of interest was the response to the triage questions, "Have you ever been hit, hurt, or threatened in any way in the past 5 years?" Possible entries for this question include, "yes," "no," "unable to assess," or a blank. Screening status was designated "screened" for an entry of "yes" or "no" for the aforementioned triage question. It was designated as "not screened" for an entry of "unable to assess" or a blank.

Definition of "Unable to Assess"

"Unable to assess" indicates one of three possible situations. First, it may mean that the patient was not cognitively able to reply to the question due to altered mental status or loss of consciousness. Second, it may indicate that the patient was not alone during triage. Third, for

patients who require an interpreter, it may indicate that an interpreter was not available at the time of triage. Regardless of the reason for the inability to screen a patient for IPV during triage, protocol dictates that the patient be screened at a later time during the visit.

Variables of Interest

The following variables of interest were extracted from the electronic medical record of the study subjects: age at visit (in years), gender, race, ethnicity, preferred language, need for an interpreter, use of an interpreter, financial class (indicated by type of health insurance), chief complaint, arrival time, day of the week of visit, number of ED visits during the previous 12 months, and county of residence. These variables were selected because they were deemed the most likely to impact IPV screening status as indicated by the research team. Branching logic supplied additional entries for female subjects indicating pregnancy status, and contraception method.

Statistical Analysis

Statistical analysis used the SAS programming version 9.4 software package. First, logistic regression was conducted between the continuous predictor variables (age, and number of ED visits during the previous 12 months) and the categorical outcome variable (screening status). Chi-square analysis was conducted to compare screening status across the following categorical predictor variables: gender, preferred language, financial class, arrival time, day of the week, chief concern, ethnicity, race, and county of residence. Preferred language was categorized as “English” or “Non-English.” Arrival time was made a binary variable with “day” and “night” as the two categories. “Day” designated arrival times between 7:00am and 7:00pm, while “night” designated arrival times between 7:00pm and 7:00am. The variable “day of the week” was also made into a binary, categorical variable with “weekday” designating Monday

through Friday, and “weekend” designating Saturday and Sunday. Age was additionally analyzed as a binary, categorical variable with those aged 30 years of younger in one category, and those over 30 years of age in the second category. County of residence was divided into “Wyandotte county” and “Other.” Lastly, financial class was divided into three categories: private and commercial insurance; Medicare and Medicaid; and self-pay. Chief complaints were sorted by primary organ system affected, resulting in ten distinct categories.

Pregnancy status and contraception method were not statistically analyzed due to the very limited number of charts that included information about these two variables.

Significance level was set to alpha of 0.05, with statistical significance at p-values < 0.05.

Results

Descriptive Statistics

Basic demographic information was collected on the 280 subject cohort (Table 1). The majority (62.5%) of subjects were female. Approximately half (49.3%) were 30 years old or younger, and approximately half (50.7%) were older than 30 years. 91.8% of subjects had "English" as the preferred language. 40.8% of subjects had private or commercial insurance, 28.3% had Medicare or Medicaid, and 28.3% were uninsured (self-pay). Most (65%) of subjects arrived to the ED during daytime hours (between 7am and 7pm), while 35% of subjects arrived at night (between 7pm and 7am). Subjects' most common chief complaint was gastrointestinal (22.9%), with the second-most common chief complaint being musculoskeletal (17.5%). 86.7% of subjects were of non-Hispanic, Latino, or Spanish origin and 13.3% were of Hispanic, Latino, or Spanish origin. 47.0% of subjects self-identified as white or Caucasian, 33.7% self-identified as black or African American, and 19.4% self-identified as belonging to another race. 49.1% of subjects resided in Wyandotte county, and 50.7% resided in a different county.

Table 1: Subject Demographic Summary

Variable	Level	Count	Percent (%)
Gender	Male	105	37.5
	Female	175	62.5
Age (yrs)	≤ 30	138	49.3
	> 30	142	50.7
Preferred Language	English	257	91.8
	Not English	22	7.9
Financial Class	Private Insurance & Commercial	114	40.8
	Medicare & Medicaid	79	28.3
	Self-Pay	79	28.3
Time of Arrival to ED	Day	182	65.0
	Night	98	35.0
Day of the Week	Weekday	235	84.2
	Weekend	44	15.8
Chief Complaint	Gastrointestinal	64	22.9
	Cardiopulmonary	25	8.9

	Head, Ears, Eyes, Nose, Throat	35	12.5
	Infectious	34	12.1
	Musculoskeletal	49	17.5
	Neurological	12	4.3
	Psychiatric	10	3.6
	Trauma	20	7.1
	Urogynecological	31	11.1
	Other	18	6.4
Ethnicity	Non Hispanic, Latino, or Spanish Origin	241	86.7
	Hispanic, Latino, or Spanish Origin	37	13.3
Race	White or Caucasian	131	47.0
	Black or African American	94	33.7
	Other	54	19.4
County of Residence	Wyandotte	137	49.1
	Other	142	50.7

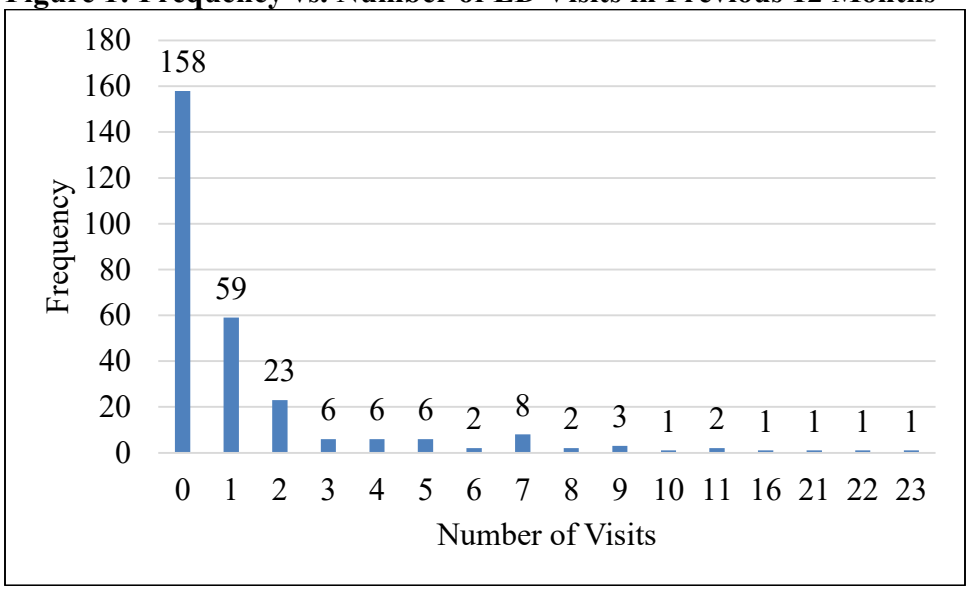
Among the 22 participants whose preferred language was not English, 13 of them (59.1%) required an interpreter and 9 of them (40.9%) did not require an interpreter (Table 2). Among the 13 participants who required an interpreter, 9 of them (69.2%) received the services of an interpreter during their visit. 3 of them (23.1%) did not have an interpreter during the visit. 1 subject's chart had contradictory notes regarding the use of an interpreter during the visit.

Table 2: Analysis of "Not English" Preferred Language

Variable	Level	Count	Percent (%)
Need Interpreter (n=22)	Yes	13	59.1
	No	9	40.9
Was Interpreter Used (n=13)	Yes	9	69.2
	No	3	23.1
	Contradictory Notes	1	7.7

For 158 subjects (56.4%), this was the first ED visit they had had in the previous 12 months (Figure 1). The median number of ED visits was 0, and the mean was 1.4 with a standard deviation of 3.2. The range was 0 to 23 visits.

Figure 1: Frequency vs. Number of ED Visits in Previous 12 Months



Among female subjects (n = 175), 136 of them (77.8%) had no information in the visit's electronic medical record regarding type of birth control used (Table 3). Surgical method of birth control was most frequently listed among the remaining female subjects at 11 times (6.3%). Long-acting reversible contraception (LARC) was cited 10 times (5.7%).

Table 3: Birth Control Method among Female Subjects

Birth Control	Count (n = 175)	Percent (%)
No entry	136	77.8
Barrier	7	4.0
Pill	7	4.0
Other hormonal	3	1.7
LARC	10	5.7
Surgical	11	6.3
Fertility Awareness	0	0.0
Surgical (partner)	1	0.6

The overwhelming majority of charts of female subjects had no record regarding pregnancy status (n = 144, 82.3%) (Table 4). Among the remaining charts of female subjects, 16 (9.1%) were currently pregnant during their ED visit, 10 (5.7%) had been pregnant during the previous 12 months, and 5 were not pregnant (2.9%).

Table 4: Pregnancy Status among Female Subjects

Pregnancy Status	Count (n=175)	Percent (%)
No entry	144	82.3
Not Pregnant	5	2.9
Currently Pregnant	16	9.1
Pregnant During last 12 months	10	5.7

With respect to the outcome variable, screening status, 186 subjects (66.4%) had been screened, and replied "no" (Figure 2). 94 subjects did not receive IPV screening (33.6%), consisting of 56 subjects who were never asked (20.0% of total), and 38 subjects (13.6% of total) who were unable to be assessed.

Figure 2: Screening Status

Screening Status	Count (n = 280)	Percent (%)
Screened	186	66.4
Answered "yes"	0	0.0
Answered "no"	186	66.4
Not screened	94	33.6
Not asked	56	20.0
Unable to assess	38	13.6

Among 258 of the 280 subjects (92.1%), the triage nurse did not suspect abuse (Table 5). Suspected abuse was unable to be assessed in one case (0.4%) and the entry was missing for the remaining 21 subjects (7.5%). There was no entry of "yes" for suspected abuse.

Table 5: Did the Nurse Suspect Abuse?

Nurse Suspected Abuse	Count	Percent (%)
Yes	0	0
No	258	92.1
Unable to Assess	1	0.4
Missing	21	7.5

Statistical Analyses

There was no statistically significant difference in prevalence of screening status between the two age groups (p = 0.1092) (Table 6). Furthermore, the prevalence of screening was not different between males and females nor between non-Hispanics and Hispanics (p = 0.7439 and p =0.8159, respectively). Difference in insurance type also had no statistically significant differences in prevalence of IPV screening (p = 0.5962). County of residence was also found to not have statistically significant differences in proportion of participants screened (p = 0.3590).

Two variables, race and preferred language, approached a statistically-significant difference in proportion of patients screened, with p-values below 0.10 (p = 0.0807 and p = 0.0892, respectively).

The variables "arrival time" and "arrival day" were found to have statistically-significant differences in prevalence of screening. 72% of subjects who arrived during the day (between 7am and 7pm) received IPV screening, while 56% of subjects who arrived at night (between 7pm and 7am) received IPV screening (p = 0.0074). Additionally, 63% of subjects who arrived on a weekday received IPV screening, while 84% of subjects who arrived on a weekend received screening (p = 0.0076).

Wald tests within the logistic regression of the predictor variable, "number of ED visits in previous 12 months" indicated no statistically significant difference in prevalence of IPV screening across different numbers of previous ED visits (p = 0.1952).

Table 6: Summary of Chi-Squares

		Screening (%)		
Variable		**Yes (n = 186)**	**No (n = 94)**	**P value**
Age (yr)	≤ 30	71	29	0.1092
	> 30	62	38	
Gender	Female	66	34	0.7439
	Male	68	32	

Ethnicity	Non-Hispanic	67	33	0.8159
	Hispanic	65	35	
Race	White	68	32	0.0807*
	Black	71	29	
	Other	54	46	
Preferred Language	English	68	32	0.0892*
	Not English	50	50	
Insurance[‡]	Private/Commercial	63	37	0.5962
	Medicare/Medicaid	71	29	
	Self-Pay	67	33	
County of Residence	Wyandotte	69	31	0.3590
	Other	64	36	
Arrival Time	Day (7am - 7pm)	72	28	0.0074**
	Night (7pm - 7am)	56	44	
Arrival Day	Weekday	63	37	0.0076**
	Weekend	84	16	

**indicates a statistically-significant p-value, <0.05

*indicates a p-value approaching statistical significance, <0.10

[‡] "Worker's Compensation" and "Tricare" were excluded from analysis (n = 4 and n = 3, respectively)

Discussion

Two out of three ED patients (male and female) who were 18 to 44 years old received IPV screening. This indicates that one-third of the young adult patients seen at the ED do not receive this critically-important service. The IPV screening prevalence did not differ between men and women, either, which is problematic since IPV screening is nationally-recommended for all women of reproductive age. No remaining individual patient factors under consideration were found to correspond to a higher or lower likelihood of receiving IPV screening.

Two factors of the patient visit were found to correspond to a lower prevalence of screening: nighttime and weekday arrival to the ED. There are several possible reasons for these findings. One possibility is that the volume of patients during nighttime and weekdays contributes to a lower likelihood of the triage nurses having the time to screen all patients for IPV. It is also possible that the seriousness of the health concerns of the patients that arrive during these times is more severe. If this is the case, triage nurses may view IPV screening as comparably less important and therefore be less likely to screen. This question requires further inquiry as the current study is insufficient to answer it.

An important fact to note is that out of the 280 patient charts reviewed, not one patient replied “yes” to the IPV screening question. As the estimated annual rate of IPV among female patients presenting to the ED is 11-14%, this suggests that out of the 175 female patients in the study, approximately 19 to 25 of them had, in fact, experienced IPV during the last year. It is possible that the currently-used screening question, “Have you ever been hit, hurt, or threatened in any way in the past 5 years?” is not sensitive enough to identify these patients [11]. The only validated screening tool that includes a question similar to the IPV screening question from this study is the “Ongoing Abuse Screen” tool (OAS) [12]. The OAS contains the following question,

"(If pregnant) have you ever been hit, slapped, kicked, or otherwise physically hurt by your partner or someone important to you during pregnancy?" This tool has a sensitivity of 30% and a specificity of 100% [12]. It is therefore likely—given the similarity of the questions—that the current study's tool has similar values for sensitivity and specificity. If so, future studies should focus on improving the sensitivity of this screening tool, or suggest alternative, higher-quality tools for screening for IPV. Furthermore, future studies should investigate the barriers to IPV screening within the population of young adult, female patients in the ED in order to overcome them.

Exploratory findings indicate that approximately one-fourth of patients requiring an interpreter during the visit do not receive this important services during the visit. This may lead to inaccurate medical information being relayed to the health care providers, as family members or friends may be used to interpret in place of a professionally-trained interpreter. Therefore, the current study suggests that greater care be taken to ensure that every patient who requires an interpreter for the health care visit is granted access to one.

Another exploratory finding of the current study reveals that there is great inconsistency in the electronic medical record regarding birth control use and obstetric history. Over three-quarters of the charts of female patients had not information regarding contraception method used by the patient. Furthermore, the overwhelming majority of charts of female subjects (four out of five charts) had no obstetric history recorded in the chart. Given the increased risk of IPV among pregnant or recently-pregnant women, it is crucially-important that these patients be identified and screened for IPV.

Limitations

There are several limitations to the current study which must be considered in evaluating the results. First, this was a relatively small (n = 280) convenience sample from a single hospital's Emergency Department. Therefore, the findings may not be generalizable to all Emergency Departments around the country. Regardless, the findings may be comfortably generalized to similar Emergency Departments, such as those at other large, academic centers situated in urban, Midwestern areas.

Two additional limitations include the lack of information in patient charts about contraception and pregnancy history. These critically-important factors were severely under-recorded in the vast majority of charts.

Given that no patient screened positively for IPV (despite the fact that likely 20 or more of the female patients had, in fact, experienced IPV), another limitation of this study is the IPV screening question, itself. The strongest recommendation that this study suggests is a reconsideration of the current IPV screening question. If it is not able to accurately identify the women who most critically need IPV intervention services, it must be replaced with a more sensitive screening tool. With the immense negative physical, psychological, and emotional consequences of intimate partner violence, as well as the ease and effectiveness of strong screening questions in identifying individuals who are experiencing intimate partner violence, significant attention must be devoted to ensuring that all patients receive IPV screening.

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