

Intimate Partner Violence Screening in an Obstetrics Clinic: A Retrospective Study

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ABSTRACT

Introduction: Intimate partner violence (IPV) is a serious public health and human rights issue affecting at least 324 000 pregnant women annually. It also occurs at any age, with 1 in 3 women experiencing IPV in their lifetime. Abuse during pregnancy leads to direct and indirect harm to both the mother and child. It also is associated with increased rates of depression, posttraumatic stress disorder, placental abruption, uterine rupture, and hemorrhage. Due to the possibility of such morbidity, it is vital to identify women at risk of abuse and act as early as possible.

Objective/Methods: The objective of this study was to evaluate the current IPV screening practices at Froedtert & Medical College of Wisconsin's obstetrics and gynecology (OB/GYN) clinic before and after the implementation of a standardized screening protocol for IPV using the Humiliation, Afraid, Rape, Kick (HARK) tool. Data were collected via a retrospective chart review during April-September 2019-2021, with the tool going into effect in 2020.

Results: A continuously increasing number of screens occurred in 2020 and 2021 after screening standardization. While more screenings were conducted, overall positive screening rates were lower in 2021 compared to 2019 and 2020 ($P=0.0008$ and $P=0.0004$, respectively). In addition, there were significantly fewer positive screens for patients who were married or those with significant others compared to those who were single or legally separated, divorced, and widowed ($P=0.0001$).

Conclusions: There was no significant difference in the positive screening rate between 2019 and 2020, but with more screenings performed in 2020, additional positive screens were picked up that otherwise may have been missed before using the standardized protocol. Overall, the implementation of a standardized screening protocol using the HARK tool increased screenings in the OB/GYN clinic, which can be replicated in other health care settings.

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INTRODUCTION

Intimate partner violence (IPV) was a serious public health and human rights issue in the United States even before the COVID-19 pandemic, with 1 in 3 women experiencing IPV in their lifetime.¹ IPV is described as physical, sexual, or emotionally abusive acts or threats carried out by an intimate partner, including current and past partners of the same or opposite sex.^{2,3} Certain aspects of the COVID-19 pandemic, such as shelter-in-place orders, increased unemployment rates, and school closures, have led to increased IPV rates of up to 40%, leading to the portrayal of IPV as the shadow pandemic.²⁻⁴ Some risk factors associated with higher rates of abuse include young age (<25 years old), single relationship status, minority race and ethnicity, and poverty defined as annual household income <\$25 000.^{5,6} While IPV can be present at any point during an individual's life, research during the perinatal period is particularly important due to an increase in the prevalence of IPV

during this time, as well as IPV's negative impact on pregnancy outcomes, which may have long-term physical and mental health implications for both infants and postpartum women.^{4,7,8}

Previous research indicates that 3% to 9% of women experience abuse during pregnancy. Also, approximately 1.5 million women experience some sort of assault every year in the US, and approximately 324 000 are pregnant at the time.^{2,8,9} Unintended pregnancies carry an increased prevalence of abuse compared to intended pregnancies.⁹ However, these statistics are considered underestimates due to unreported, missed, or unmeasured cases.^{8,9}

IPV victims—especially those who are pregnant—are often reluctant to report their experience due to stigma, fear of losing custody of their children, fear of retaliation from their abusive partner, distrust of the medical and criminal legal fields, economic dependence on the abuser, and so forth.¹⁰ Few victims (34%) ever seek medical care for IPV-related issues, and even fewer disclose the cause of their injury or condition once accessing care.¹¹

Experiencing abuse during pregnancy leads to direct and indirect harm to both the mother and child. Women abused during pregnancy are more likely to miss prenatal appointments or delay seeking care, often waiting until the third trimester. These women are also at higher risk for poor nutrition associated with inadequate gestational weight gain and participation in high-risk behaviors, including smoking, alcohol, and substance use. All of these behaviors directly impact both short-term and long-term fetal and neonatal health outcomes. IPV exposure during the perinatal period may be related to increased maternal rates of depression and post-traumatic stress disorder, as well as pregnancy-associated deaths from homicide and suicide.^{12,13} In 1 study, pregnant women hospitalized after an assault demonstrated increased risks of placental abruption, uterine rupture, and hemorrhage.^{3,14} Studies also have shown that IPV is associated with an increased risk of preterm birth and low birth weight at the time of delivery.^{2,14,15}

In addition to increased risks of poor health outcomes for pregnant women and the fetus, research found that IPV was experienced by 28% of female subjects of all ages seen in primary care settings, prompting the researchers to suggest that routine IPV screening practices be adopted in clinics that include women of all ages and throughout the lifespan.^{1,16}

Because of its grave consequences, women during their pregnancy who are experiencing IPV need to be identified and approached about the issue as early as possible. Several screening tools already exist to identify IPV, including the following: Abuse Assessment Screen; Partner Violence Screen; Woman Abuse Screening Tools; Hurt, Insult, Threaten, Scream; and Humiliation, Afraid, Rape, Kick (HARK) tools.^{17,18} These tools provide a standardized framework to screen patients at risk of IPV, and all are most effective when used consistently and longitudinally at least once each trimester and in the postpartum period.⁸ Moreover, universal screening for IPV is recommended in health care settings when screening can be conducted privately, safely, and comfortably, although there is no consensus on the optimal screening setting or method.¹⁹ In addition, universal screening is not the standard practice in health care settings. However, prior studies demonstrate higher screening rates during pregnancy among women of color, those without a high school degree, those who have never been married, those who receive Women, Infants, and Children (WIC) benefits, and those who are publicly insured.¹⁵ While these populations may be at higher risk of IPV, all women should be screened due to the pervasive risk of IPV across the general population.⁹ The results of a chart review study of routine

screening for IPV in obstetrics and gynecology (OB/GYN) clinics led to the recommendation that there is a need for IPV screening with all women patients receiving obstetrics and gynecology care.²⁰

This study sought to evaluate current IPV screening practices at Froedtert & Medical College of Wisconsin's OB/GYN clinic by comparing overall screening and positive screens before and during the COVID-19 pandemic, as well as before and after the implementation of the HARK screening tool,¹⁷ which was implemented as part of clinical care in November 2020 and standardized by 2021. Before implementation of the HARK screening tool, there was no standardized method of screening for IPV, and the method and timing of screening were left to each clinician's discretion. The EHR tool was implemented as a standardized process in which MAs routinely performed the IPV screening at this clinic for all pregnant patients during the new patient intake process, which was completed via telephone before the first prenatal visit.

Research questions for this study were: (1) How did overall screening of positive cases compare before and during the COVID-19 pandemic?; (2) How did general IPV and positive screen numbers compare before and after the implementation of the standardized protocol using the HARK tool in Epic?; (3) What are the demographic, ethnicity, and relationship differences in patients screening positive for IPV in an obstetrics clinic?; and (4) Do screening results change with screening on each subsequent visit? We hypothesized that general screening and positive screen numbers would increase after the implementation of a standardized protocol using the HARK tool and during the COVID-19 pandemic.

MATERIALS AND METHODS

Data Source

This study is a retrospective secondary data analysis. The use of clinical data was approved by the Institutional Review Board of the Medical College of Wisconsin (PRO00041036). The clinical data were accessed through the Clinical and Translational Science Institute of Southwest Wisconsin (CTSI)'s Clinical Research Data Warehouse. Using the Informatics for Integrating Biology and the Bedside (i2b2) Cohort Discovery Tool and the Honest Broker Data Extraction Tool, queries were created to access deidentified patient data. The data were downloaded from Epic (Epic Systems Corporation—an EHR software utilized by the Froedtert and Medical College of Wisconsin health system).

All downloaded patient data were sorted according to those who screened positive or negative for IPV, patients who refused to answer the screening questions, and those who were not screened. All patients who received IPV screening at the clinic over the 3 years mentioned were assigned a unique patient ID number and different visit ID numbers (multiple IDs for multiple screenings), and the corresponding data were uploaded into the REDCap database.

Three sets of data were collected: (1) April through September

2019 for data before the COVID-19 pandemic and prior to implementation of the HARK tool, (2) April through September 2020 for data during the peak of the pandemic and implementation and use of the HARK tool, and (3) April through September 2021 for data later in pandemic and after standardization of the HARK tool. These three 6-month periods were chosen to ensure manageability and with April as the starting month as it was during in the region's 2020 pandemic lockdown period.

The HARK tool has 4 yes/no closed-ended questions specific to "humiliation," "afraid," "rape," and "kick" and refers to possible abuse within the past year. If a patient answered "yes" to any of the 4 questions, the screen was positive.

Data Analysis

Once the data were grouped into their corresponding date ranges, summary statistics were generated for each set. These included frequency and percentage for categorical data, including gender, race, and ethnicity and median and interquartile range for continuous variables. Continuous variables were compared using the Kruskal-Wallis test and Mann-Whitney test. Categorical variables were compared with chi-square and Fisher exact tests. Multivariable analysis was completed with a logistic regression model to see which variables were associated with positive screen results. We included only variables that showed significant results in the univariable analysis in the multivariable model. Statistical software SAS 9.4 (SAS Institute) was used for all the analyses, and a *P* value <0.05 was considered statistically significant.

RESULTS

Demographics

A total of 1267 patients were screened during the study period. The median age was 31.5 years (range 17.6–85.2). Over half (734; 57.9%) of the patients were White, 371 (29.3%) were Black, 104 (8.2%) were Hispanic, and 162 (12.8%) were "other" races. The majority of patients (58.5%) were married or had a significant other. There were significantly more Hispanic patients screened in 2021 compared to 2020 (*P*=0.046) (Table 1). There were fewer Hispanic patients in 2019, but the difference was not statistically significant. There was also a significant difference in marital status: more patients were married or had significant others and fewer patients were legally separated, divorced, or widowed in 2021 compared to 2019 and 2020 (*P*<0.0001) (Table 1). There was no significant difference in the marital status of patients between 2019 and 2020.

Table 1. Demographic Characteristics Compared by Year^a

	2019 (N=59)	2020 (N=418)	2021 (N=790)	<i>P</i> value
Age (mean and age range)	31.3 (26.2–44.0)	33.6 (28.9–42.2)	30.8 (26.4–34.5)	<0.0001
Race				0.11
White	38 (64.4)	261 (62.4)	435 (55.1)	
Black	16 (27.1)	110 (26.3)	245 (31.0)	
Other	5 (8.5)	47 (11.2)	110 (13.9)	
Ethnicity ^b				0.049
Hispanic or Latino	2 (3.4)	26 (6.3)	76 (9.6)	
Not Hispanic or Latino	57 (96.6)	390 (93.7)	714 (90.4)	
Relationship status ^b				<0.0001
Married/significant other	26 (44.8)	226 (54.1)	489 (61.9)	
Legally separated/divorced/widowed	6 (10.3)	28 (6.7)	12 (1.5)	
Single	26 (44.8)	164 (39.2)	289 (36.6)	

^aData presented are frequency (%) for categorical variables and median (IQR) for continuous variables.

^bVariables with missing values.

Table 2. Intimate Partner Violence (IPV) Positive and Negative Screen Results Compared by Year

	2019 (N=59)	2020 (N=418)	2021 (N=790)	<i>P</i> value
IPV screen results				<0.0001
Positive	6 (10.2)	21 (5.0)	12 (1.5)	
Negative	53 (89.8)	397 (95.0)	778 (98.5)	

Data presented are frequency (%).

IPV Screens

The number of overall screenings increased in 2020 (n=418) and 2021 (n=790), with standardized screening significantly higher compared to 2019 (59) when screenings were performed at the clinician's discretion (Table 2). Over the 3-year study period, a total of 39 patients (3.1%) screened positive, defined as answering yes to 1 or more of the 4 HARK questions. There were only a handful of patients who were screened more than once during the study periods, and there was no change in screening results with subsequent screening for any of those patients. For these patients, information from their first IPV screen was used in the analyses.

Results of the IPV screen compared by year showed that positive screens were significantly lower in 2021 compared to 2019 (*P*=0.0008) and 2020 (*P*=0.0004) (Table 2). There was no significant difference in IPV screening results between 2019 and 2020. The only significant demographic variable associated with a positive IPV screening result was marital status. The screen-positive group had more single, legally separated, divorced, or widowed patients (*P*<0.0001) (Table 3). Although screening was completed in less than half of the Black patients compared to White patient, the total number of positive screens was higher among Black patients (Table 3). In a multivariable analysis that included both year and marital status in a logistic regression model, both factors were significant predictors for IPV results (*P*=0.0015 and *P*<0.0001 respectively, Table 4).

Table 3. Intimate Partner Violence (IPV) Screen Results Were Compared by Demographic Variables

	IPV Screen Positive (N=39)	IPV Screen Negative (N=1228)	P value
Race			0.052
White	16 (41.0)	718 (58.5)	
Black	18 (46.2)	353 (28.7)	
Other	5 (12.8)	157 (12.8)	
Ethnicity			> 0.99
Hispanic or Latino	3 (7.7)	101 (8.2)	
Not Hispanic or Latino	36 (92.3)	1125 (91.8)	
Relationship status			<0.0001
Married/significant other	5 (12.8)	736 (60.0)	
Legally separated/ divorced/widowed	5 (12.8)	41 (3.3)	
Single	29 (74.4)	450 (36.7)	
Age	30.73 (26.22 – 39.32)	31.53 (27.30 – 36.14)	

Data presented are frequency (%) and median (interquartile range).

DISCUSSION

Several findings emerged from this study related to patient screening for IPV. The primary question in our study compared screening practices and positive screen rates with and without a standardized screening protocol. Before standardization, IPV screening was completed when there was suspicion of IPV and at the discretion of the clinician. Our findings support the idea that the use of a standardized screening protocol and an EHR screening tool drastically increases the number of patients screened, as the total number of patients screened increased immediately after implementation of the standardized screening process. And although the positive screen percentage was lower in 2020 than in 2019, a higher total number of positive screens occurred in 2020 (n = 21) versus 2019 (n = 6). Those are the patients who likely would have been missed without this universal screening policy. Given these results, screening based on risk factors only would miss patients who otherwise would not be screened but may still be victims of IPV.

In addition to increasing screening rates in the clinic, this study also showed that there was a significantly lower number of positive IPV screens in patients who were married or had significant others. This is consistent with prior studies that found married women experience less IPV than unmarried women living with significant others.^{21,22} Our study also showed that separated and single women were more often victims of IPV.

Furthermore, it is possible that the COVID-19 pandemic had important effects on this study's findings. The increase in positive screens in 2020, compared to both 2019 and 2021, occurred during the time of peak lockdowns and shelter-in-place regulations, which have been suggested to increase rates of IPV (Table 2).

Limitations

A key limitation to this study was that the exact timing of when

Table 4. Multivariable Analysis of Positive Intimate Partner Violence (IPV) Screen Results

Patient Factor	Odds Ratio (95% CI)	P value
Year		
2019	5.66 (1.97 – 16.25)	0.0013
2020	2.96 (1.42 – 6.19)	0.0038
2021	Reference	
Relationship Status		
Single	8.89 (3.41 – 23.21)	<0.0001
Legally separated/divorced/widowed	11.56 (3.14 – 42.55)	0.0002
Married/significant other	Reference	

the standardized protocol using the HARK tool went into effect was unknown. Hence, we were unable to compare screening results before and directly after the intervention. Furthermore, the clinic could not provide data on the total number of new, unique patients within each time frame, and their screening circumstances, such as privacy issues, limited us from calculating the clinic's general screening rates. Also, the standardized IPV screening protocol that was used by Froedtert & Medical College of Wisconsin's OB/GYN clinic and evaluated in this study only included pregnant patients, but the data picked up all patients who were screened, including those who were not pregnant at the time. The screening procedures themselves are limited by the stigmatization of IPV and the method of inquiry. The change from an in-person suspicion-driven inquiry to phone screening upon intake likely added to significant underreporting. Finally, the data analyzed were from a single medical clinic and may not represent an overall trend, but our findings align with previous findings discussed above.

Future Directions

In the future, a study may be conducted to evaluate the results with longitudinal or repeat screenings carried out with a standardized protocol. COVID-19 might have influenced the outcome of the positive screening. The results can be evaluated, and the study can be replicated post-COVID when the impact of the pandemic is less salient. While this is an important first step, the treatment of IPV with the creation of a network of support systems, including health care workers and social workers, is of utmost importance. Going forward, researchers should also study the resources and tools available to those who are victims of IPV, identify which are most effective in preventing further violence or abuse, and ensure that staff and clinicians in health care settings are aware of these resources so that they may provide them to patients who screen positive.

CONCLUSIONS

IPV is a serious health crisis that deserves attention from health care providers. Our findings show promising results—that a standardized screening protocol using 4 brief questions is effective in efficiently screening more patients and identifying cases of abuse

that otherwise may be missed if screening is based only on risk factors. This study demonstrates that the IPV screening protocol at this clinic increased the overall screening in an OB/GYN clinic, which can be replicated in other clinics or health care settings. In addition to recognizing those patients who screened positive for abuse, the data additionally showed the important effect of marital status as well as the COVID-19 pandemic on IPV, which could help focus future studies or interventions. Detecting abuse is not enough; guidance and resources should be provided by well-trained and supported clinicians or IPV advocates to end the abuse and hopefully prevent it in the future.

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