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In person versus Computer Screening for Intimate Partner Violence Among Pregnant Patients

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Abstract

Objective—To compare in person versus computerized screening for intimate partner violence (IPV) in a hospital-based prenatal clinic and explore women's assessment of the screening methods.

Methods—We compared patient IPV disclosures on a computerized questionnaire to audio-taped first obstetric visits with an obstetric care provider and performed semi-structured interviews with patient participants who reported experiencing IPV.

Results—Two-hundred and fifty patient participants and 52 provider participants were in the study. Ninety-one (36%) patients disclosed IPV either via computer or in person. Of those who disclosed IPV, 60 (66%) disclosed via both methods, but 31 (34%) disclosed IPV via only one of the two methods. Twenty-three women returned for interviews. They recommended using both types together. While computerized screening was felt to be non-judgmental and more anonymous, in person screening allowed for tailored questioning and more emotional connection with the provider.

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I confirm all patient/personal identifiers have been removed or disguised so the patient/person(s) described are not identifiable and cannot be identified through the details of the story.

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Conclusion—Computerized screening allowed disclosure without fear of immediate judgment. In person screening allows more flexibility in wording of questions regarding IPV and opportunity for interpersonal rapport.

Practice Implications—Both computerized or self-completed screening and in person screening is recommended. Providers should address IPV using non-judgmental, descriptive language, include assessments for psychological IPV, and repeat screening in person, even if no patient disclosure occurs via computer.

Keywords

computer-assisted diagnosis; domestic violence; pregnant women; prenatal care; physician-patient relations

1. Introduction

Intimate partner violence (IPV) against women remains a prevalent and significant problem in the United States. The Centers for Disease Control and Prevention recently released findings from their National Intimate Partner and Sexual Violence Survey, a national telephone survey of randomly identified households in the United States during 2010, and found that 35.6% of women (approximately 42.4 million women) have experienced rape, physical violence or stalking by an intimate partner in their lifetime; 5.9% (approximately 7 million women) experienced these forms of IPV within the past 12 months.[1]

Prevalence rates of physical and sexual IPV that occur during pregnancy vary from 0.9 – 20.1% with most estimates between 4% and 8%[2, 3]. Women who experienced physical IPV were 1.8 times more likely (95% CI 1.5, 2.1) to have delayed entry into prenatal care compared to those who had not experienced violence[4] and 1.6 times more likely to have post-partum depression.[5] Newborns of pregnant women who experienced physical IPV during pregnancy are more likely to suffer from low birth weight.[6, 7]

Most major medical organizations, including the American College of Obstetricians and Gynecologists, the American Academy of Family Physicians, the American Medical Association, and the American Academy of Pediatrics, recommend routine IPV screening as a part of standard patient care.[8-12] Compared to other medical specialties such as family practice and internal medicine, obstetrician-gynecologists are most likely to perform routine screening for IPV [13] and they are more likely to do so during the first prenatal visit. [14]

Female participants in many studies reported that they think providers should ask routinely about violence.[15-18] One study by Rodriguez and colleagues suggested that, if asked directly whether they have been abused, women who experience IPV will disclose.[19] However, several other studies found that many women experiencing current partner violence will deny their abuse even when asked.[18, 20, 21] Some studies suggest that the method of IPV screening affects women's comfort and IPV disclosure.[22-24]

With increased use of computers in medical care, there has been more interest in the use of computers to assist in screening patients for behavioral issues including IPV.[25-27] Several studies also found higher IPV disclosure rates using computerized screening compared to in person inquiry.[26, 28-30] Prior studies, however, either randomized women to one form of screening versus another[31] or randomized computer screening to “usual care” in clinical settings with low rates of IPV in person screening.[28-30] Thus, there are no comparisons of how women responded when exposed to both types of screening methods. The goals of this research were to compare in person IPV screening versus self-reported computerized screening in a prenatal clinic among pregnant women who experienced both forms of

screening. The study design allowed us to compare the different screening results. We also sought to explore the perspectives of the women who had experienced IPV regarding each type of screening method.

2. Methods

We audio-recorded first obstetric visits between obstetrics care providers and pregnant patients in a high volume, hospital-based obstetrics and gynecology clinic serving an ethnically diverse population of women. We chose this study location based on its high IPV screening rates; a prior chart review study in this setting found 97% of prenatal history forms documented IPV screening.[32] Patient subjects were eligible if they were 18 years and older, pregnant, English-speaking, and coming for their first obstetric visit in the study site. Patients were not eligible if they had guests (e.g. partners, family members, friends) whom they wished to remain in the exam room during the obstetric visit. Provider subjects were eligible if they performed first obstetric visits in the study site. Both patient and provider participants were recruited to participate in a study focusing on “patient-provider communication during the first obstetric visit” and were not aware at that time regarding the focus of the study on IPV. Patient participants were debriefed regarding this focus after the visit recording was obtained. Provider participants were debriefed regarding this focus at the end of their study participation. Both groups of participants provided written informed consent for the first obstetric visit data collection (e.g. computerized questionnaire data and audio-recorded visits). Patient participants who disclosed IPV were informed of the opportunity to participate in the second portion of the study which involved returning for a semi-structured follow-up interview. Participants who returned for this portion of the study signed a second, separate consent form for this.

We focused on the first obstetric visit for several reasons: a) in our clinical setting this visit is the longest, most comprehensive discussion between an obstetric care provider and pregnant patient among all other prenatal visits, b) surveys of obstetric care providers note that the first prenatal visit was the most likely visit during which IPV screening would occur,[23] c) prior chart review studies in this setting had found that 92-97% of obstetric care providers were asking their patients about IPV during the first obstetric visit[32] confirming that most of these visits would include in person IPV inquiry, and d) usual care for all pregnant patients presenting for their first obstetric visit in this clinic setting during the time of the study included self-completion of a computerized questionnaire focusing on screening for a variety of behavioral risks including IPV prior to seeing the provider. This computerized questionnaire was administered to each a patient using a direct data entry, touch-screen notebook that had been developed with feedback from clinicians, clinical and registration staff and patient users. Layout (including font size, color scheme, and white space) and language had been reviewed for patient acceptance and understanding. The questionnaire was only offered in English. Screens showed only one question at a time. Patients who indicated no difficulties reading English were given the notebook and allowed to complete the questionnaire on their own in the waiting rooms. Screens were slightly glazed to protect privacy. For patients with difficulty reading English, clinical staff assisted in the completion of the questionnaire. The six computer IPV screening questions are described in Table 1.

Discussions between provider and patient participants were audio-recorded with digital voice recorders. Audio-recordings were reviewed and coded to determine if and how the provider screened the patient for IPV. Patient disclosures of IPV were also coded and categorized as physical, psychological and sexual. Patient IPV disclosures via computerized questionnaires were compared to in person IPV disclosures during the audio-recorded visit.

All participants who disclosed IPV either on the computer or during the recorded visit were eligible to return for a semi-structured follow-up interview. Patient participants who disclosed IPV either via computer or in person were asked to return for a semi-structured individual interview within 4 weeks of the recorded first obstetric visit. Among other topics explored during these interviews, the women were asked to compare their views, experiences and feelings regarding computerized IPV inquiry versus in person inquiry. Patients who agreed to return for a semi-structured interview provided informed consent for their participation in this portion of the study.

All audio recordings of the interviews were transcribed verbatim. The sections of the interviews that addressed comparisons between computerized and in person IPV inquiry were coded in an iterative fashion using a modified grounded theory approach by two experienced qualitative coders (DD and SS).[33, 34] Coders then met to compare coding. No discrepancies in interpretation were noted and a final coding scheme developed and applied to all transcripts. Investigators then identified categories and themes. All patient and provider participants signed informed consent and the study was approved by the University of Pittsburgh Institutional Review Board.

3. Results

Two-hundred and fifty patient participants and 52 provider participants were enrolled in the study. Participant characteristics are described in Table 2. About half (48%) of the patients described their race as White or Caucasian and 47% as Black or African American. The majority of patient participants were unmarried (77%). The majority of the provider participants were women (94%), Caucasian (92%) and resident obstetrics and gynecology physicians (78%).

In the 250 audio-recorded visits, providers asked about IPV in 244 visits (97.6%) and 67 patients disclosed some form of IPV (27%) in person. Thirty-two (13%) patients described experiencing just physical IPV; 4 (2%) just psychological and 12 (5%) just sexual. Seven (3%) described experiencing both physical and psychological IPV; 11 (4%) experienced both physical and sexual IPV; and one (0.4%) experienced all three types of IPV.

Data from the computerized screening questionnaire was available for 247 of the 250 patient participants. In total, 85 patients (34%) disclosed any type of IPV via computer, the majority of whom reported experiencing physical IPV. More than half reported experiencing more than one type of IPV (see Table 3). Of these 85 who disclosed IPV via computer, 60 (71%) also disclosed in person during the audio-recorded discussion with their obstetric provider. Twenty-four women (26%) disclosed via the computerized tool but did not disclose in person with the provider. Another 6 women (7%) disclosed IPV in person to the provider but did not disclose on the computer. Two of these six disclosed to a nurse midwife; three disclosed to a 3rd year obstetrics-gynecology resident physician, and one disclosed to a 1st year obstetrics-gynecology resident physician. In total, 91 of the 250 (36%) patient participants disclosed IPV either via computer tool or in person.

Examining the discrepancies in more detail, we noted that among the 24 patient participants who disclosed IPV only via computer, 22 reported experiencing psychological IPV. Of the 11 who only experienced one type of IPV, 9 reported psychological IPV.

Of the 48 patient participants we contacted for a follow-up interview, 46 (96%) expressed interest and 23 (48%) completed the interview. Of these 23, 15 women disclosed IPV via both methods, 7 only via computer and 1 only in person. Characteristics of the women who returned for follow-up interviews are presented in Table 2. The key themes identified from the interviews included the following: 1) women felt that having both the computerized

screening tool and provider asking in person was helpful; 2) the computerized screening had the benefit that it contained more specific questions, seemed non-judgmental, and made it easier to disclose; 3) in person inquiry had the benefit of communicating a provider's emotional connection and concern for the patient, allowing more flexibility in adjusting the wording of the question if the patient did not understand, and patients knew to whom they were disclosing. In the following section, we describe each of these themes in more detail and provide some illustrative quotations from the interviews regarding each of these themes.

Using both computerized and in person screening for IPV

The patient participants noted that women who have experienced IPV may have different preferences regarding how they are approached with the topic. They indicated while some women may feel more comfortable with the computer, others may benefit from the in person interaction with the provider. By combining the use of both, women felt that this allowed more options. As one woman noted:

“I didn't think one [type of screening] was better than the other. They both worked. I think certain women...feel more comfortable putting it into a computer instead of saying it to someone. Maybe they may feel more comfortable just letting someone know 'yes this is happening but I don't want to talk about it.'...Then talking to someone about it...hearing compassion in someone's voice making sure you're okay and that you're safe and...[depending on the situation] I am sure there is a whole bunch of different questions and...a whole different avenue of things you go down....”

The women also mentioned that having the computer screening occur prior to the in person inquiry allowed them to have more time to consider their experiences, recognize whether what they had experienced was a type of abuse, and/or decide whether they wanted to tell the provider. As one woman stated, “The computer is a good way to get it [talking about IPV] started.” Another woman commented: “It really made me think about everything that had happened that how much of it really was abuse....It's not just physical, it's emotional, it's financial, it's so many different types of abuse.” Women also described how answering the computerized questions prepared them to talk about IPV with their provider. As one woman described:

“At first I wasn't going to say nothing, but I said 'let me just talk about it to somebody other than my friends how I can deal with it.' Cause that was a big issue for me cause I've never been abused before. I felt comfortable with it after I thought about it. That's why it took so long for me to finish [the computerized questionnaire], but I was comfortable after I sat and thought about what I needed to do.”

Benefits of the computerized IPV screening

The women described various benefits of a computerized IPV inquiry. One such benefit was that they felt the questions regarding IPV were often more direct and provided more specific details of IPV experiences. As one woman stated: “If you are going to come to me asking the question, I don't want you to beat around the bush...Some people are like, 'Have you ever had any problems?' Why don't you just ask the question?” Patient participants also appreciated the detailed behaviors described in the computerized IPV questions. In particular, they commented that the description of psychological IPV can raise awareness that IPV is not limited to only physical violence. As one woman pointed out:

...A lot of people think that abuse is you have to have bruises and you have to be hurt and you have to have something physically wrong with you....Abuse can be financially where they steal your money or won't let you have a job or

emotionally...talking bad to anyone is abuse....A lot of people don't realize that...
And when you read those questions,...it makes you think about [it].

Additionally, women described appreciating that the computerized IPV questions specifically asked about current versus past IPV.

Women explained that because a computer would not respond to their answers, they felt that the computerized questions were non-judgmental. As one woman explained, "I think the computer was easy because you don't feel like someone is judging you...like, 'why are they putting up with this?' and 'why haven't they left?' and all that kind of stuff." In contrast, they described that in person inquiries raised the concern of how that other person will respond to an IPV disclosure. Another woman described how some women may feel inhibited talking about their IPV experiences: "Talking to a person is the fear of how they will look at you and what they think and what they say and how they are going to react to you."

Additionally, women described that the computerized questionnaire made it easier to disclose their IPV because the answers were straightforward yes or no answers on response options they would select on the computer. As one woman stated, "In my opinion, [it is] definitely easier to just hit a button and say 'yes, he hits me', or 'no he doesn't'." Another woman explained, "It's a lot easier to check 'yes' than it is to feel like you have to explain." Another aspect about the computer that seemed to facilitate disclosure was that they could answer the question while they were alone: "Some people just don't like to talk to anybody at the time but the computer helps a lot because all they have to do is read it no one is really around and they just check 'yes'."

Benefits of in person IPV inquiry

Alternatively, women reported that in person IPV inquiry allowed them to sense whether the provider was emotionally engaged with them and allowed them to hear the provider's concern. The one woman who did not disclose IPV in the computer mused about why she did disclose in person with the provider: "[She] was a previous doctor of mine. It's not something that I share with a lot of people...I just feel comfortable talking to her...I don't even know why [I told her about the IPV], but maybe it could have been the eye contact we had and it felt like she really cared. That is probably why I did [disclose]."

In person IPV inquiry was also more flexible and dynamic which allowed for providers to change their wording or clarify the question if the patient seemed confused or uncertain. As one woman described, "I wasn't used to the computer thing but the computer kind of makes it hard to answer some questions cause...there is a yes or a no and you have to pick...there were questions on there I was like I'm not sure how to answer this. "

Finally, in person inquiry offered the certainty of who was getting the information regarding the IPV disclosure, the women knew to whom they were disclosing when talking directly to their providers. They were less certain, however, who would be getting the information from any IPV disclosures revealed on the computerized screening tool. Said one woman: "Maybe on the computer you weren't exactly sure who was going to see it. So, and with your health care provider asking you, you knew who you were talking to about it and um, so I think maybe in person might be a little bit better." Another woman echoed this concern regarding what happens to the information given on the computer:

Some women...are like it is a conspiracy thing, 'I don't want anyone knowing my business.' But when there is a real person standing there showing that they care [and will be using the] information to help them [the women], then they [the women] are going to be 'cool, here is my life story.'"

4. Discussion and Conclusion

4.1. Discussion

Although our study did note that computerized IPV screening elicited slightly higher disclosure rates compared to in person IPV inquiry, the majority of our patient subjects disclosed IPV via both screening methods. The act of asking about IPV, then, is the primary element in eliciting disclosure.[19] Prior studies that noted higher IPV detection rates via computerized screening often randomized the computer screening with “usual care” in clinical settings with low rates of in person provider IPV inquiry. Rhodes and colleagues noted that only 45% of the emergency department providers in their “usual care” control group discussed IPV with their patients.[35] Similarly, Trautman and colleagues’ found only 33% of their emergency providers in the “usual care” group asked about IPV. In a family medicine setting, Ahmad and colleagues noted only 24% the “usual care” audio-recorded visits contained discussions assessing for IPV. Other studies examining provider screening for IPV has also found consistently low rates of screening.[13, 14, 36, 37] Computerized IPV screening, however, not only increased the rates of IPV screening, but also significantly increased the likelihood that providers would talk about IPV during the visit.[28-30, 35]

When disclosure discrepancies occurred in our study, participants were more likely to disclose IPV only via computer. There were, however, a few women who disclosed to their providers after denying IPV on the computer. A majority of the women described the computer IPV screening questions as easier to answer than the questioning by a provider. In MacMillan and colleagues’ trial comparing IPV screening via computerized questionnaire, written questionnaire and in person IPV, a greater proportion of the women who used the computerized questionnaire compared to those asked about IPV by their providers agreed that the method was “easy” and that they “liked answering questions in that way.”[31] Our study provides some additional insights regarding what aspects of the computerized questionnaire may be associated with the perception of the method being “easier.” Our study subjects described the computer as non-judgmental and providing an option of responding to yes/no questions without feeling a need to explain themselves. However, they also described the benefit of hearing a providers’ concern during in person interactions. Prior studies have shown providers’ expressions of concern and avoidance of judgmental or stigmatizing communication is associated with greater comfort and willingness for women to disclose IPV.[19, 22-24, 38]

Additionally, the women in our study elaborated on their perception that computerized IPV questions were more descriptive and specific than those posed to them by their obstetric providers. In particular, they mentioned how the computerized questions raised awareness that IPV was not limited to only physical violence. Additionally, a sizeable majority of those who disclosed only to the computer answered “yes” or “unsure” to the questions addressing psychological IPV. Although the recent National Intimate Partner and Sexual Violence Survey found that nearly half of all women in the United States have experienced at least one form of psychological aggression from an intimate partner in their lifetime,[1] literature regarding effective methods for screening and addressing psychological IPV is lacking.

There are some limitations to our study worth noting. Our data was collected in a single clinical location and thus may not be generalizable to other types of clinics, other patient populations and other clinical settings. Indeed, this clinical site was chosen because it has a high rate of IPV screening. Other elements of the site including prominent posters and numerous brochures addressing IPV in the waiting rooms also distinguish this setting and may have influenced overall IPV disclosure among our study participants. Providers were mainly resident physicians. In this regard, they may have lacked IPV screening and other communication skills training and experience.

Additionally, the focus of this analysis was to explore comparisons and impressions between our computerized screening questionnaire and the in-person IPV screening conversations; it was not a trial of our computerized IPV screening tool. In this regard, we cannot presume to make any claims regarding the sensitivity or validity of the use of other computerized IPV screening tools in other clinical settings.

Also, our audio-recordings only captured discussions between the obstetric care providers and pregnant patients. Other discussions that may have occurred with other clinical staff such as nurses, medical assistants and social workers were not obtained. Potentially disclosures and discussions of IPV could also have occurred in these interactions.

As only one of the six women who disclosed IPV only in person returned for an interview, our qualitative findings primarily reflect perspectives of women who disclosed IPV on computer. With only one person who shared her perspectives regarding why she chose to disclose in person but not on the computer, we have limited information upon which to form any understanding regarding this choice of IPV disclosure behavior.

Finally, we recognize that participation in a study using audio recordings of the visit could itself affect the results. However, neither group of participants was aware of the focus on IPV at the time of the recorded visit. Additionally, we surveyed both patient and provider participants at the end of study participation and noted that the large majority of participants indicated that being recorded did not result in their speaking or acting differently. Nonetheless, we recognize that we cannot entirely eliminate the possibility that the audio-recording and study participation affected participant behavior.

4.2 Conclusion

The majority of women in our study who reported experiencing IPV disclosed on both the computerized questionnaire and in person. Among those who only disclosed via one screening method, more women disclosed via the computer. While women described comfort with the anonymity and lack of immediate judgment when disclosing IPV to a computer, they also indicated that the dynamic interaction with a provider allowed them to sense their provider's concern and empathy and allowed more flexibility in wording and communication styles. They also suggested providers use both type of methods to address IPV.

4.3 Practice Implications

Our study findings support the use of a combination of screening both in person and with a computer based questionnaire as a means to identify the highest number of women experiencing IPV, and thereby increase the opportunity to provide support to women. If a computerized screening program is used, we advise that providers re-address IPV in person, even if the patient did not disclose on the computer. Providers should also follow-up on any positive or any "unsure" IPV responses in the computer by communicating concern, providing information and resources, and assessing the patient's current safety and needs. [23] When asking about IPV in person, providers should use direct language that clearly defines IPV and include questions that ask about experiences of psychological IPV.

There are also several research implications from our study findings. Additional exploration is needed to assess what types of provider communication styles are associated with increased patient comfort and willingness to disclose IPV. In future analyses, we will perform more detailed qualitative analyses of the words, framing of the questions, and communication styles our provider subjects used to address IPV. Additionally, we will further explore how providers responded to the women's IPV disclosures. Women victims of IPV have described appreciating provider responses that 1) emphasized the abuse was not

their fault, 2) communicated concern and support, and 3) provided information or resources. [39-44] Still not well known, however, is how providers do respond to IPV disclosures and what elements of these are most beneficial to helping women deal with their IPV experiences and make changes to improve their safety and overall health.

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Table 1**Computer IPV Screening Questions**

The following questions were included in the computer questionnaire that patients completed before seeing their provider. The answer choices for each of the following questions were: yes, no, unsure.

1. As an adult, have you ever been hit, slapped, kicked or other physically hurt by a romantic partner, spouse, or ex-partner?
2. Have you been hit, slapped, kicked or hurt by your current partner?
3. As an adult, have you ever been repeatedly yelled at, called names, or threatened by a romantic partner, spouse, or ex-partner?
4. Have you been yelled at, called names or threatened by your current partner?
5. As an adult, have you ever been forced to have sex or perform sexual acts against your will be a romantic partner, spouse, or ex-partner?
6. Have you been forced to have sex or perform sexual acts against your will by a current partner?

Table 2

Patient and Provider Participant Characteristics

Characteristic	Provider Participants (N=52)	
	N(%)	
Provider type		
Obstetric-gynecology resident	41	(79)
Nurse midwife	6	(12)
Nurse practitioner	4	(8)
Provider race (Missing=3)		
Caucasian	45	(92)
African American	3	(6)
Other	1	(2)
Provider gender		
Female	49	(94)
Male	3	(6)
Provider age (Mean 31 ± 7)		
20-29 years	27	(52)
30-39 years	10	(19)
40-49 years	15	(29)

Patient Participants	Initial Audio Recording(N=250)	Follow -Up Interview (N=23)
Patient race (Missing=6)		
Caucasian	116 (48)	12 (52)
African American	115 (47)	9 (39)
Other	13 (5)	2 (9)
Patient age	Mean = 25 ± 5	Mean = 24 ± 5
<20 years	27 (11)	1 (4)
20-29 years	172 (69)	18 (78)
30-39 years	48 (19)	4 (17)
40-49 years	3 (1)	(0)
Patient marital status		
Single	184 (77)	21 (91)
Married	40 (17)	1 (4)
Separated/divorced/widow/other	15 (6)	1 (4)
Patient highest education level completed		
Grade school	10 (4)	1 (4)
High school/GED	113 (47)	10 (44)
Some college	81 (34)	8 (35)
Finished college degree	28 (12)	3 (13)
Graduate school	9 (4)	1 (4)
Patient current yearly income		
\$0-\$4,999	103 (46)	13 (57)

<i>Patient Participants</i>	<i>Initial Audio Recording(N=250)</i>	<i>Follow –Up Interview (N=23)</i>
\$5,000-\$9,999	32 (14)	1 (4)
\$10,000-\$14,999	25 (11)	3 (13)
\$15,000-\$19,999	28 (12)	5 (22)
\$20,000 and above	37 (16)	1 (4)
Type of provider who conducted visit		
Obstetric gynecology resident	170 (68)	12 (48)
Nurse midwife	41 (16)	7 (30)
Nurse practitioner	26 (10)	5 (22)
Physician assistant	10 (4)	(0)

Table 3

IPV Computer Disclosures (N=85)

	Physical Ever (N)	Physical Current (N)	Psychological Ever (N)	Psychological Current (N)	Sexual Ever (N)	Sexual Current (N)
Yes	69 (81%)	14 (16%)	71 (83%)	26 (31%)	21 (25%)	5 (6%)
Unsure	1 (1%)	0 (0%)	2 (1%)	1 (1%)	0 (0%)	0

Number of types of IPV Disclosed	N(%)
One type of IPV disclosed	23 (27%)
Physical	8
Psychological	13
Sexual	2
Two types of IPV disclosed	44 (52%)
Physical and psychological	43
Physical and sexual	1
All three types of IPV disclosed	18 (21%)