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Introduction

Emergency departments (ED) could have a major impact in reducing unintended pregnancies resulting from sexual assault by providing emergency contraception (EC) to rape victims. Although cases of rape are universally under-reported, sexual assault remains a common reason for emergency department ED visits. An estimated 40,000 acute sexual assault visits are made annually to EDs in the United States. (1) Worldwide, about 13% of women report sexual assault during their lifetimes, and up to 5% of these assaults result in pregnancy (1).

Sexual assault survivors are particularly vulnerable to unintended pregnancy. Professional organizations that advocate for women's health, including the American Medical Association, the American College of Obstetricians and Gynecologists, and the American College of Emergency Physicians, strongly endorse routine dispensing of EC to rape victims (2-4). Despite these clear, strong recommendations the provision of EC in EDs is not yet the standard of care in the United States.

One approach to increasing provision of EC is through the legislative process. Currently no federal laws mandate counseling about and provision of EC in EDs. As of 2007, nine states have passed legislation requiring EDs to provide EC-related services to sexual assault survivors (5). In seven of these states, hospital EDs are required by law to dispense emergency contraception on request to sexual assault survivors. New Mexico enacted a law in 2003 that defines the standard of care for sexual assault survivors and includes specific provisions that apply to hospitals that offer emergency care for sexual assault survivors. Provisions of the law stipulate that hospitals will (1) provide each

sexual assault survivor with accurate written and oral information about emergency contraception, (2) inform each sexual assault survivor orally and in writing of her option to be provided emergency contraception at the hospital, and (3) provide emergency contraception at the hospital, including the initial dose to take at the hospital and the subsequent dose that the sexual assault survivor may self-administer twelve hours following the initial dose (6). The law also specifies that hospitals shall ensure all personnel who provide care to sexual assault survivors are trained to provide medically accurate, objective information about emergency contraception (6).

New Mexico ranks ninth in the US for sexual assault of women. It is estimated that 19% of New Mexico women over age 18 have been raped at least once in their lifetime. The actual figure is higher, as it includes rape of women under age 18 and rape of men. In 2004, 2654 sex crimes were reported by law enforcement agencies. Of 549 cases with documentation of outcomes, 81 (15%) became pregnant (7).

The purpose of this study was to determine whether the requirements of the New Mexico state law are being met. We sought to determine the presence of hospital protocols ensuring provision of emergency contraception to sexual assault survivors being treated in New Mexico EDs. We also queried hospital ED staff to determine if provision of EC to sexual assault victims was actually occurring. We also sought to identify barriers to offering EC in cases of sexual assault. Additionally, we assessed the approach to patient requests for EC in the setting of consensual, unprotected sex.

Methods

This study uses survey methods to determine ED practices about prescribing EC. We developed an 18 item questionnaire adapted from that of a similar study of emergency contraception practices in Oregon EDs with the permission and assistance of the authors (8). The questionnaire included items related to characteristics of the hospital, knowledge of subjects about EC and the law, and ED practices relevant to EC and sexual assault survivors as well as women who had consensual unprotected intercourse. Additionally, the research assistant asked to be provided with a copy of the ED's sexual assault protocol.

All hospitals with emergency departments (EDs) in the state of New Mexico were identified by an internet search using Google. This included the terms "New Mexico hospitals", "New Mexico emergency departments" and "New Mexico emergency rooms." Thirty-nine hospitals were identified. The websites of all 39 were reviewed to ascertain whether they were "full service," defined as those in which providers were available 24 hours a day to see patients. Where it was not obvious from the hospital website, the hospital was called. We contacted all hospitals to identify the ED director. A consent letter was mailed to each director requesting participation in the study. One of three investigators visited each hospital in the state at a time convenient to the investigator. At the visits, the investigator discussed the study with the ED clerks, requesting permission to talk with them, with an ED physician,and an ED nurse. We included clerks as they are the first line of contact for many patients and may be knowledgeable about policies and procedures. We included nurses because they may

have as much or more institutional memory than physicians and may have more knowledge of policies and procedures.

The investigator gave each subject another copy of the consent letter and explained the questionnaire. If the subject agreed to participate, the investigator interviewed the subject using the questionnaire. In each facility, we interviewed one member each of available medical, nursing and clerical staff. We spoke with working staff that were available at the time of the visit, without respect to length of employment or experience with emergency contraception.

Analysis of data was performed using SAS software. Descriptive statistics were generated and Fisher's exact test was used to determine associations between independent and dependent variables. A two-sided probability of 0.05 was used to test for statistical significance. The study was approved by the Human Research Review Committee of the University of New Mexico.

Results

We identified 38 full service EDs in New Mexico. Though we intended to visit all hospitals, data were obtained from 33 of the 39 because of geographic isolation or unavailability of staff. We obtained data from 33 hospitals. We were unable to obtain data from five hospitals due to geographic isolation or lack of availability of staff at the visits. Interviews were conducted at 33 hospitals at a variety of times during the day and up to 10:00 PM at night. Thirty-eight percent were urban (defined as Albuquerque, Santa Fe/Los Alamos, Las Cruces) and 62% were rural (all others). There are no Catholic hospitals in New Mexico. The estimated number of ED visits for the institutions was

reported to range from 5,110 to 80,000 and the estimated number of visits for sexual assault was reported to range from 1 to158.

Although the majority of respondents indicated that their ED had a written rape protocol and that most included guidance on administration of EC, very few could actually produce the policy (Table 1). Overall, 63% of RNs, MDs and clerks reported that EC was routinely offered to sexual assault survivors. The remainder of responses indicated that hospitals provided EC on an individual basis according to physician preference or referred the patient to another provider. The likelihood of receiving EC decreased for sexual assault survivors who were minors. Despite the lack of state requirements for parental consent or notification for contraception including EC, many respondents reported a parental consent requirement for receiving EC in the ED in the setting of rape. In the case of consensual unprotected sex, only 20% of RNs and MDs reported that EC was routinely provided (Table 2). Respondents most commonly advised these patients to see an outside provider.

The large majority of respondents indicated they knew what emergency contraception was. Only 86% of physicians, 60% of nurses, and 45% of clerks were aware that EC is effective up to 72 hours after unprotected intercourse (Table 3). Fewer than 10% of clerks, RNs and MDs were aware that EC is actually effective beyond 72 hours after unprotected intercourse. Fewer than 5% of clerks, RNs and MDs at these facilities were aware of the state law requiring that EC be offered to sexual assault survivors.

Discussion

The main finding of our study was that only 63% of New Mexico ED staff reported that EC is offered to sexual assault survivors on a routine basis, despite a state

law requiring universal provision. A substantial minority of RNs and MDs reported that the decision to offer EC was up to the individual physician and that the majority of the individual physician decisions were related to their moral feelings about use of EC.

Furthermore, it is concerning that although a majority of staff indicated a rape protocol was in place, only about one fifth of EDs could actually produce the document that contained guidelines for providing EC to sexual assault survivors. A strength of our study design was our actual presence in the ED. Research assistants watched as staff rummaged through documents, almost universally unable to locate the protocols. Although a few may actually have had a protocol, one could question the usefulness of a protocol that three separate staff members were unable to locate. Women requesting EC after consensual sex were less likely to receive it "routinely" from NM EDs. Given the recent FDA decision approving over-the-counter status for Plan B for women over age 17, the need for ED dispensing of EC for women experiencing unprotected consensual sex should be distinctly reduced. However, over-the-counter status will not alleviate the problem faced by sexual assault survivors who do not receive EC in the ED, especially minors. This particularly vulnerable population may face knowledge, psychological and financial barriers to accessing the medication at a pharmacy and will continue to be best served by receiving EC in the ED.

Sexual assault nurse examiner (SANE) programs may have a large impact on the delivery of appropriate services to sexual assault survivors. SANE programs should assure consistent delivery of EC to sexual assault survivors through the use of standardized protocols that include collection of a sexual assault evidence kit, STD prophylaxis and offering of EC. Eight formal SANE programs exist in NM, covering

roughly half of the hospitals in NM. In a national review of the impact of SANE programs, Campbell found preliminary evidence to support the benefit of such programs for a variety of sexual assault survivor outcomes, including the consistent delivery of EC (9). Since SANE is a community, not hospital-based program, SANE services are not consistently available at all hospitals, even in areas where SANE has a presence. It is the responsibility of emergency departments in NM to provide EC to sexual assault survivors in all instances, regardless of SANE availability.

A number of studies have examined the use of emergency contraception when treating victims of sexual assault (8-15). In 2004, a telephone survey of hospitals in Pennsylvania revealed that only 42% of emergency departments routinely offered EC counseling to victims of sexual assault, while 16% never offered such counseling (10, 11). Catholic hospitals were much less likely to offer EC counseling than non-Catholic hospitals. In contrast, other services such as mental health counseling and examination and prophylaxis for STDs in sexual assault survivors were near universal. A telephone survey of Oregon emergency departments yielded similar results. Of the 54 hospitals contacted, 61% routinely offered emergency contraception to victims of sexual assault; of these 33 hospitals, only 8 actually dispensed EC (in the form of Plan B), while the rest offered prescriptions to be filled at outside pharmacies (8).

A national telephone survey study examining the provision of EC in emergency departments found that Catholic hospitals are less likely to offer EC than non-Catholic hospitals, although fully 42% of non-Catholic hospitals reported that they did not dispense EC even in the setting of sexual assault (12). Similarly to our study, they found that treatment decisions are not guided by protocol so much as made individually by the

physician on duty at the time. While respecting the principle of autonomous practice, in this setting the wide variation among providers leaves many women, particularly sexual assault survivors, without needed medication.

An epidemiologic analysis of the quality of care of sexual assault providers examined seven years of data from the National Hospital Ambulatory Medical Care Survey (NHAMCS). Although the study focused on empiric treatment for STDs as suggested by the Center for Disease Control (CDC), it also found that only 20% of eligible women received emergency contraception (13).

A recent survey of ED practitioners given different clinical scenarios related to EC revealed that the majority (83%) would be willing to give EC to a sexual assault survivor and fewer (73%) would be willing to give EC to a woman who had had consensual sex (14). These findings mirror the responses from our study population. Unprotected sex, outside the setting of rape, was not considered an "emergency" by the majority of RNs and MDs; women requesting EC in this setting were most often referred to an outside provider. A similar, more recent phone survey was conducted in Massachusetts' EDs (15). Nurses primarily answered questions about availability of EC, which was reported to be available in 80% of calls. Despite this high percentage, access was inconsistent and unpredictable, even for survivors of sexual assault.

Our study has several limitations. We surveyed a convenience sample of providers in the EDs. Different providers in the same institution may have answered differently. The overall consistency between the three interviewees' responses does provide some reassurance that answers may be representative. Additionally, patients presenting to an ED do not have the option of choosing a provider, so we feel that this

study's methodology more closely approximates the experience of an actual patient who is cared for by the providers that are on duty at the time of her visit. Providers may have represented practice at their institutions as more favorable than actual clinical practice. It is possible that respondents would not know the location or content of other clinical protocols. However, the difference between other important protocols and the EC rape protocol is that New Mexico state law requires the latter. A strength of our study was that we made actual visits and interviewed providers in person. By making a visit instead of a phone call and talking to three individuals instead of one, we hoped to gain more accurate information about the actual practice of offering and dispensing EC.

Overall, we were struck by interviewees' uncertainty about the answers to many of our questions. For example, hesitation was a common response to the question about the existence of a rape protocol, and we were not surprised that although most asserted that the ED had a written policy, very few could actually locate one.

In September 2004, the US Department of Justice published national guidelines for sexual assault survivors (16). Notably, despite criticism from several organizations, this 141 page document does not explicitly state the need to offer emergency contraception to sexual assault survivors. The document focuses on prevention of sexually transmitted diseases with less emphasis on pregnancy issues. Despite acknowledging that fear of pregnancy is a major concern for survivors, the document uses oblique language advising providers to "discuss treatment options with patients, including reproductive health services." It is difficult to be critical at the local level when the federal government sets such a poor example for its protocol.

More effective dissemination of the state statute regarding EC for sexual assault survivors might benefit New Mexico women. EDs should develop protocols for the treatment of sexual assault survivors that include provision of EC. In the face of the current epidemic of unintended pregnancy in the U.S., the provision of EC should be considered an emergency medical service regardless of the setting in which unprotected sex occurred.

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Table 1

Emergency department practice related to EC for sexual assault survivors

Survey Question	**Emergency Department provider answer Subjects answering yes/total subjects (%)**			**Don't* know (%)**
	MD	RN	Clerk	
The ED has a written rape protocol	21/31 (68)	26/30 (87)	19/26 (73)	13
Protocol available	4/21 (19)	5/26 (19)	4/20 (20)	2
EC in rape protocol	4/21 (19)	5/26 (19)	4/19 (21)	40
EC is offered to sexual assault survivors				
Routinely	19/31 (61)	18/30 (60)	8/26 (31)	20
Physician discretion	7/31 (23)	4/30 (13)	4/26 (15)	
Referred to outside provider	1/31 (3)	1/30 (3)	0	
Never	3/31 (10)	2/30 (7)	3/26 (12)	
If rape victim is a minor,				
EC is offered regardless of age	13/30 (43)	14/29 (48)	7/26 (27)	15
Parental consent is required	13/30 (43)	6/29 (21)	9/26 (35)	
EC is not offered to minors	0	2/29 (7)	1/26 (4)	
EC is offered at the physician's discretion	4/30 (13)	2/29 (7)	1/26 (4)	
Requirements before obtaining EC				
Pregnancy test	25/28 (89)	23/28 (82)	12/25 (48)	16
Police report	6/27 (22)	5/27 (19)	8/26 (26)	14
How patients obtained EC				
Both doses dispensed in ED	14/31 (15)	11/30 (37)	4/26 (29)	23
One or both doses prescribed	12/31 (39)	12/30 (40)	5/26 (19)	
Referred to outside provider	1/31 (3)	3/30 (1)	5/26 (19)	
If prescribed, patient referred by ED to pharmacy known to carry EC	4/27 (15)	4/26 (15)	2/14 (14)	???

*This column is the sum of the "don't know" responses of all three provider types combined, expressed as a percentage of total respondents

Note: No responses differed significantly between the three types of providers (all $p > .05$)

Table 2

Emergency department practice related to EC for women who had unprotected consensual sex

Survey Question	**Emergency Department provider answer "Yes" to the survey question N answering yes/total N* (%)**			**Don't* know (%)**
	MD	RN	Clerk	
EC is offered for consensual unprotected sex				
Routinely	11/31 (35)	5/30 (17)	2/25 (8)	1
At the physician's discretion	16/31 (52)	11/30 (37)	11/25 (44)	
Not offered, referred to outside provider	3/31 (10)	5/30 (17)	3/25 (12)	
Never	1/31 (3)	8/30 (27)	4/25 (16)	
Why MDs don't prescribe EC routinely when requested for consensual unprotected sex				
Hospital policy against this practice	0	1/25 (4)	3/23 (13)	16
Physician personal beliefs against	13/20 (65)	9/25 (36)	4/23 (17)	
Unaware of EC	1/20 (5)	1/25 (4)	0	
Other	6/20 (30)	12/25 (48)	7/23 (30)	

*This column is the sum of the "don't know" responses of all three provider types combined, expressed as a percentage of total respondents

Note: No responses differed significantly between the three types of providers (all $p > .05$)

Table 3

Emergency department providers' knowledge of EC

Survey Question	**Emergency Department provider answer "Yes" to the survey question N answering yes/total N* (%)**			**P value**
	MD	RN	Clerk	
Do you know what emergency contraception is?	30/31 (97)	30/30 (100)	20/26 (77)	NS
EC is effective for at least 72 hours after unprotected intercourse	25/29 (86)	15/25 (60)	9/20 (45)	.002**
Are you aware of any requirements for offering EC to sexual assault victims?	3/31 (10)	5/30 (17)	2/25 (8)	NS

* There were no respondents answering "don't know"
** post hoc testing: clerk vs. MD $p < .001$ and MD vs. RN $p = .03$: MDs more likely than nurses or clerks to report that EC is effective for at least 72 hours after unprotected intercourse