

Using the Theory of Reasoned Action to Explain Physician Intention to Prescribe Emergency Contraception

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CONTEXT: Although research has examined providers' knowledge, attitudes and prescribing behaviors with regard to emergency contraception, none has used a theory-based approach to understanding the interplay of these factors.

METHODS: A cross-sectional survey of 96 faculty physicians from one Southern and three Midwestern universities was conducted in 2004 to assess factors associated with intention to prescribe emergency contraception. The theory of reasoned action guided the study hypotheses and survey design. Correlation and regression analyses were used to examine the data.

RESULTS: Only 42% of respondents strongly intended to prescribe emergency contraception for teenagers, but 65–77% intended to do so for all other specified groups (women who ask for the method, who have had a method problem, who have experienced rape or incest, and who have had unprotected sex). Consistent with the theory of reasoned action, high intention to prescribe emergency contraception was associated with positive attitudes toward doing so and with the perception that specific colleagues or professional groups support prescribing it; however, the perception of support by colleagues or professional groups in general did not predict intention. Also consistent with the theory, physicians' knowledge about emergency contraception and their demographic characteristics were not significant.

CONCLUSIONS: Interventions to encourage physicians to provide emergency contraception should take into account their attitudes toward the method and the components of those attitudes.

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Emergency contraception, or postcoital birth control, is used less often in the United States than in other countries.¹ Many factors influence this difference, including differences in U.S. prescribing rates, women's and physicians' knowledge and attitudes, and accessibility. A complex dynamic exists among these factors, independent of prevailing attitudes about contraception in general and sexual responsibility in particular.² This dynamic influences access to emergency contraception and is complicated by the need to use the medication within a particular window of time and by its cost.³ Emergency contraception is available without a prescription in more than 25 countries;⁴ in the United States, however, it remains prescription-based except in a few states (Alaska, California, Hawaii, Massachusetts, New Hampshire, New Mexico and Washington)⁵ that allow pharmacists to dispense it without a prescription under certain conditions. For the foreseeable future, most legally accessed emergency contraception will be available solely through prescription.

PRESCRIBING AMONG PHYSICIANS

The overwhelming majority of adolescent health experts and obstetrician-gynecologists have prescribed emergency contraception at some time; however, only half of general practitioners have done so, and of these, one-third have prescribed it fewer than six times.⁶ Emergency contraception prescribing differs by practice setting. In 2003, 74% of all

faculty, residents and clinic nurses in a university-based family medicine department in the Midwest had prescribed emergency contraception, doing so, on average, 3.2 times in the previous 12 months.⁷ In the late 1990s, only 42% of women's health care providers at a large health maintenance organization in southern California had ever prescribed it.⁸ This proportion increased by almost 20% after a one-year demonstration project, which included the repackaging of oral contraceptives for use as emergency contraception, development of provider and patient education materials, and formal provider and staff training.⁹

In the 1990s, 20% of the members of the Washington, DC, chapter of the American Academy of Pediatrics had prescribed emergency contraception in the prior year, compared with 75% in a chapter in the New York City area.¹⁰ The disparity may be an artifact of differences in survey response rates (61% in Washington, DC; 24% in New York) or patient profiles. Some providers who prescribe emergency contraception restrict adolescents' ability to obtain the drug—for example, by limiting the number of times an individual can obtain it or limiting its availability on the basis of menstrual timing.¹¹

It is unclear whether insufficient knowledge or attitude—conscious or unconscious—influences patterns of emergency contraception prescription. In a qualitative investigation focused on advance prescription of emergency contraception,

one family practice physician remarked, “If you use contraception, it means for me that you are preventing things. But [if you use emergency birth control], you did not prevent.” A “notable” minority of interviewees were wary of the method, principally because of the fear of irresponsible behavior as a result of its availability.¹² Several well-designed studies, however, have shown that having a home supply from an advance prescription does not result in an increase in unprotected intercourse or a change in use of other contraceptives. Furthermore, women with a home supply of emergency contraception use the method in a more timely manner than women without such a supply.¹³

Emergency contraception’s mechanism of action remains controversial and may influence physician prescribing. Theories about its mechanism include suppression or delay of ovulation and prevention of implantation.¹⁴ According to the National Institutes of Health definition of when life begins,¹⁵ emergency contraception is not considered an abortifacient. Nevertheless, at the decade’s beginning, 20% of women’s health practitioners in a southern California health maintenance organization identified emergency contraception as an abortifacient,¹⁶ as had 39% of primary care residents at the end of the 1990s.¹⁷

BACKGROUND

We report on a survey of physicians practicing in academic settings, who provide care to women of reproductive age; these physicians may counsel patients about emergency contraception, prescribe the method and educate medical residents in the provision of this service. The survey, which was conducted in 2004 in three states where access to emergency contraception requires a physician’s prescription, explored physicians’ knowledge about, attitudes toward and practices regarding prescription of emergency contraception; it also asked about their beliefs about the method and perceptions of colleagues’ attitudes toward prescribing it. We used the theory of reasoned action¹⁸ to examine the underpinnings of intention to prescribe emergency contraception, and to provide information about provider practices that might assist the design of interventions to increase physician-based access. No previous studies have applied theory to elicit an understanding of physicians’ emergency contraception prescription practices.

The theory of reasoned action has been used to describe a variety of clinical practices among physicians and health care workers.¹⁹ The theory holds that intentions to engage in a behavior are most influenced by individuals’ attitude toward engaging in the behavior and their perceptions of norms associated with it.²⁰ Both attitude and perceived (or subjective) norms are measured directly and indirectly.

The direct measure of attitude is the overall evaluation of the behavior (e.g., prescribing emergency contraception is good or bad). The indirect measure is based on a person’s beliefs that engaging in the behavior is associated with certain outcomes (behavioral beliefs), weighted by an evaluation of those outcomes. Thus, a behavioral belief about prescribing emergency contraception (e.g., the likelihood that

prescribing emergency contraception would enhance women’s reproductive options) is weighted by the person’s evaluation of that behavioral outcome (e.g., enhancing women’s reproductive options is good).

Subjective norms are determined by the individual’s normative beliefs—the perception of how groups or individuals important to the person (i.e., social referents) view the behavior. The direct measure is the individual’s overall assessment of whether his or her social referents approve or disapprove of the behavior. The indirect measure is the person’s belief that each specific referent approves or disapproves of the behavior, weighted by the individual’s motivation to comply with that referent’s perspective.²¹ A physician’s perception of partners’ or colleagues’ approval of prescribing emergency contraception is weighted by that physician’s motivation to comply with them.

According to the theory of reasoned action, external variables, such as demographic characteristics and knowledge, do not predict intention. Because interventions to increase knowledge increase emergency contraception use among physicians,²² however, we added knowledge to our model.

Using the theory of reasoned action, we developed two hypotheses for exploration: Physicians’ intention to prescribe emergency contraception will be most influenced by their attitudes toward the method and by their social norms; and knowledge about emergency contraception will not predict intention to prescribe.

METHODS

Study Design and Sample

To guide the development of the survey questionnaire, we conducted elicitation interviews with community-based physicians ineligible for study participation, in which we asked about their beliefs about the consequences of prescribing emergency contraception, as well about as which professional colleagues were important to them. We pilot-tested the questionnaire among community physicians and nurse practitioners ineligible for study participation. The final questionnaire was based on their feedback.

Survey participants were faculty from primary care departments (obstetrics and gynecology, family medicine and pediatrics) at four universities in which we work, three in the Midwest and one in the South. They were recruited by physician “champions” from each department, who distributed the surveys on the basis of their knowledge about their colleagues’ practices; for example, they excluded neonatologists or gerontologists. In two cases, distribution and completion of the surveys occurred during a departmental faculty meeting. In all others, participants returned the surveys to the researcher from their institution in preaddressed envelopes. No names or identifying data other than specialty, age and gender were collected. Each university’s institutional review board approved the study with a waiver of written consent.

*The first trimester of pregnancy begins when a fertilized egg implants into a woman’s uterus. This occurs about 7 days after the egg is fertilized.

TABLE 1. Correlation between independent variables (and their components) and intention to prescribe emergency contraception among primary care physicians surveyed at four teaching hospitals, 2004

Variable	r
Attitude toward prescribing	
Direct measure (how good/bad, positive/negative, harmful/beneficial respondent thinks it is to prescribe emergency contraception)	0.62***
Indirect measure (behavioral beliefs weighted by evaluations of outcomes)	0.52***
<i>Behavioral beliefs:</i> how likely respondent is to believe that prescribing results in each of 10 outcomes (enhances reproductive options, discourages consistent contraceptive use, reduces unintended pregnancies, reduces abortion, takes too much time in clinic, is inconvenient for the respondent, encourages unprotected sex, poses health risks, causes frequent use of emergency contraception, causes abortion)	-0.03*
<i>Evaluation of outcomes:</i> extent to which respondent views each outcome as good/bad, harmful/beneficial	0.15
Subjective norms	
Direct measure (general perception of whether groups important to respondent think respondent should/should not prescribe)	0.53***
Indirect measure (specific professional referents' perspectives weighted by motivation to comply with those referents)	0.36***
<i>Specific professional referents' perspectives:</i> perception of whether specific partners/colleagues, community physicians, professional organization, current medical standards think respondent should prescribe	0.29**
<i>Motivation to comply:</i> extent to which respondent wants to comply with each specific referent's view of prescribing	0.08
Knowledge	
Score on knowledge quiz (number of correct answers to five questions)	0.05

*p<.05. **p<.01. ***p<.001. Note: Results are from Spearman's correlation, applied to mean value of the variables.

A total of 96 physicians responded to the survey, of whom 52% were family practitioners, 30% obstetrician-gynecologists and 18% pediatricians; the overall response rate was 70%. On average, respondents had been in practice for 15.8 years (range, 1–50). Ninety-seven percent were board-certified, and 62% were male. Their ages ranged from 29 to 79, and averaged 46.9 years.

Measures

•**Intention to prescribe.** The dependent variable was physician intention to prescribe emergency contraception. Participants were asked the extent to which they intend to prescribe emergency contraception to each of the following five groups: women who specifically ask for information about the method; women who have experienced incest or rape; women who have experienced a problem with their method, such as a condom break; sexually active teenagers; and women who request the method after having unprotected sexual intercourse. Responses were given on a seven-point scale (1="not at all," 7="very much"); thus, possible scores ranged between 5 and 35. An item that asked about opposition to prescribing emergency contraception was included in the survey but was not used to score intention. The item read "My opposition to emergency contraception precludes prescribing" and had the same seven-point response scale.

•**Attitude.** Our direct attitude measure was a sum of three scores that indicated how good or bad, how positive or negative, and how beneficial or harmful participants consider

prescribing emergency contraception. Responses ranged from -3 (extremely bad, negative or harmful) to +3 (extremely good, positive or beneficial); the total score for this measure therefore ranged from -9 to +9.

For the indirect attitude measure, we weighted the beliefs about the outcomes by their evaluation. Using results of the elicitation interviews, we identified 10 beliefs that are common among physicians about possible outcomes of prescribing emergency contraception: It enhances a woman's reproductive options; discourages consistent use of other contraceptives; reduces the number of unintended pregnancies; reduces the number of abortions; takes too much clinical time; is inconvenient for the physician; encourages unprotected sex; poses health risks for women; causes frequent use of emergency contraception; and causes an abortion for a woman who has conceived. Participants were asked how likely each of these beliefs was to be true for them. Answers ranged from "extremely likely" (+3) to "extremely unlikely" (-3). Participants were also asked how good or bad each of these outcomes is; answers ranged from "extremely good" (+3) to "extremely bad" (-3).

•**Subjective norms.** The direct measure of subjective norms was based on a single statement using a seven-point Likert-type scale indicating whether participants thought that "in general...most people or groups important to [them]" thought that they should prescribe emergency contraception. Answers ranged from "definitely should" (+3) to "definitely should not" (-3).

The indirect subjective norms measure was formed by weighting individuals' beliefs about the specific professional referents by their motivation to comply with those referents. Two measures assessed physicians' beliefs about whether specific professional referents think they should prescribe emergency contraception (+3="definitely should" to -3="definitely should not") and how much they want to comply with each referent (1="not at all" to 7="very much"). The specific referents, identified from the elicitation interviews, were partners or colleagues; community physicians; professional organizations (i.e., the American College of Obstetricians and Gynecologists, the American Academy of Pediatrics and the American Academy of Family Physicians); and current medical standards of professional practice.

•**Knowledge.** Knowledge was measured by the number of correct answers participants gave to five multiple-choice and true-false questions about emergency contraception: its mechanism of action, its side effects, its association with birth defects, its effectiveness and when to prescribe it. These questions were based on the current literature.²³

•**Demographic.** Six external variables, identified in the literature and pilot study, were included: specialty, adolescent subspecialty, board certification, years in practice, age and gender.

Analysis

Univariate correlations between three domains (attitudes, subjective norms and knowledge) and intention to prescribe were performed using Spearman's correlation. Partial Spear-

man's correlations were used when the theoretical framework required measuring the association between a domain and intention to prescribe through a mediating domain.

We used generalized linear models to compare responses for each question and for each domain. If we detected significant differences, we used the least squares mean post hoc test to determine significant pairwise differences.

To explore the proposed hypotheses, we used generalized linear models with intention to prescribe as the outcome variable. The frequency distribution was generated, and summary statistics were produced using the mean, standard deviation and p values from generalized linear modeling. Coefficients were estimated, and models were reduced in a backward fashion when appropriate. All analyses were performed using SAS, version 8.

For the correlation and regression analyses, intention to prescribe emergency contraception was a continuous variable with scores ranging from 5 to 35. To compare the mean scores of physicians' beliefs about prescribing emergency contraception and their perception of what their social referents wanted them to do, we classified intention to prescribe as low (score of less than 26), medium (26–34) or high (35).*

RESULTS

At the univariate level, attitude, subjective norms, behavioral beliefs about the outcomes of prescribing emergency contraception and normative beliefs about specific professional referents significantly correlated with intention to prescribe (Table 1). Three variables were not significantly correlated with intention to prescribe emergency contraception: evaluations of the outcomes; motivation to comply with professional referents; and knowledge about emergency contraception. None of the external (demographic) variables were significantly correlated with intention (not shown).

In the regression analyses, attitude and the indirect measure of subjective norms predicted physician intention to prescribe. The more positive physicians' attitudes about emergency contraception were, the greater their intention to prescribe the method (estimated beta=1.39, $p<.001$); and the greater the perception that specific professional referents approved of prescribing emergency contraception, the higher the intention score (estimated beta=0.05, $p<.05$). The direct measure of subjective norms, however, did not predict intention to prescribe.

Emergency contraception knowledge scores ranged from 0 to 5, and they averaged 3.76 (standard deviation, 1.30). Twenty-eight percent of physicians correctly answered all five questions, 46% percent gave four correct answers and 14% gave three. Only 11% scored less than three, including 6% who scored zero. Almost all respondents (98%) knew that emergency contraception has only minimal side effects (Table 2); most knew that birth defects are not a side effect (93%) and that emergency contraception is effective at least 75% of the time (90%). Eighty-two percent of respondents knew that emergency contraception is thought to work by preventing implantation of a fertilized egg or delaying ovu-

TABLE 2. Percentage distribution of physicians, by responses to five questions about emergency contraception

Question	Correct	Incorrect	Don't know	Total
How serious are the common side effects?	97.8†	2.2	0.0	100.0
If a woman takes emergency contraception and still becomes pregnant, there is at least a 50% chance that the baby will be born with a birth defect.	93.4‡	0.0	6.6	100.0
If used properly, emergency contraception prevents pregnancy what percentage of the time?	90.1§	3.3	6.6	100.0
The best theoretical understanding is that emergency contraception works by what mechanism?	82.4††	15.4	2.2	100.0
Emergency contraception is effective if taken within how many hours?	62.7‡‡	35.1	2.2	100.0

†Not serious but uncomfortable (nausea, vomiting), or none. ‡False. §At least 75% of the time. ††Prevents implantation of a fertilized egg or delays ovulation. ‡‡72 hours, or five days. Note: The question about birth defects was true-false; all others were multiple-choice.

lation, but some thought that it prevents fertilization or causes expulsion of a fertilized egg.

The majority of physicians (65–77%) responded “very much” regarding the extent to which they intended to prescribe emergency contraception to four of the five groups of women specified in the survey; the largest proportion was for prescribing the method to women who have experienced rape or incest (Table 3, page 24). Only 42%, however, reported “very much” with respect to prescribing it to sexually active teenagers. Eight percent of physicians “very much” agreed that their opposition to emergency contraception precluded prescribing it, and 4% reported a neutral score on this item (not shown).

Among the 92 physicians who indicated their intention to prescribe, 39% were classified as having a high intention, 42% as medium and 19% as low. Statistically significant differences between groups were found for every belief about the consequences of prescribing emergency contraception (Table 4, page 24). High intenders were more likely than low intenders to believe that prescribing the method reduces the number of unintended pregnancies, enhances a woman's reproductive options and reduces the number of abortions. They were less likely than low intenders to believe that prescribing it discourages consistent contraceptive use, encourages unprotected intercourse, leads to frequent use of postcoital birth control, poses health risks, causes an abortion if a woman has conceived, takes too much clinical time and is inconvenient.

Compared with high intenders, medium intenders were less likely to believe that prescribing emergency contraception enhances a woman's reproductive options, and were more likely to believe that it encourages unprotected sex, causes frequent use of emergency contraception, takes too

*After examining the distribution of intention scores across participants, we initially classified participants into one of three intention groups: high (top 25%), medium (middle 50%) and low (lower 25%). These groups had intention scores of 35, 28–34 and less than 28, respectively. However, we shifted four participants with scores of 26–27 from the low to the medium group, as we thought that they would more closely resemble medium than low intenders.

TABLE 3. Percentage distribution of physicians, by extent of intention to provide emergency contraception to selected groups of women

Group	N	7 (very much)	6	5	4 (neutral)	3	2	1 (not at all)	Total
Women who specifically ask	93	66.7	10.8	10.8	4.3	1.1	1.1	5.4	100.0
Women who have experienced incest/rape	93	77.4	8.6	4.3	2.2	0	0	7.5	100.0
Women who have had a method problem/condom break	93	72.0	8.6	1.1	4.3	4.3	0	9.7	100.0
Sexually active teenagers	93	41.9	14.0	14.0	10.8	5.4	4.3	9.7	100.0
Woman who request it after unprotected sex	92	65.2	13.0	3.3	6.5	2.2	2.2	7.6	100.0

Note: Percentages may not add to 100 because of rounding.

much time and is inconvenient. They were more likely than low intenders to believe that prescribing emergency contraception reduces the number of unintended pregnancies and abortions, and were less likely to believe that it causes an abortion or is inconvenient.

By contrast, statistically significant differences in the evaluations of these beliefs occurred for only four items. High intenders had the most positive view of enhancing a woman's reproductive options. They also had more positive views than low intenders of reducing the number of unintended pregnancies; they gave less negative evaluations than low intenders to causing frequent use of emergency contraception and causing an abortion if a conception occurred. Compared with low intenders, medium intenders evaluated enhancing a woman's reproductive options more positively; they gave less negative evaluations to causing overuse of emergency contraception and causing an abortion if the woman had conceived.

Perceived support from professional organizations did not differ significantly by intention to prescribe (Table 5). Compared with low intenders, high intenders considered current medical standards, their partners or colleagues, and community physicians more supportive of their prescribing emergency contraception; medium intenders viewed

current medical standards as more supportive than did low intenders. With regard to physicians' motivation to comply with these professional referents, only two differences between groups were statistically significant: Both high and medium intenders were more inclined than low intenders to want to comply with current medical standards.

DISCUSSION

Attitudes and Subjective Norms

As predicted by the theory of reasoned action, physician attitudes toward prescribing emergency contraception strongly predicted intention to do so. Contrary to the theory, the direct measure of subjective norms—reflecting physicians' general perception of colleagues' support for prescribing—did not predict intention to prescribe. Our interpretation is that physicians may have such strong opinions about the positive or negative aspects of prescribing emergency contraception that they disregard their professional referent groups' perspectives.

This explanation does not fully explain, however, the seemingly contradictory finding that the indirect measure of subjective norms—physicians' perceptions of specific referents' support of prescribing emergency contraception, weighted by their motivation to comply—predicted intention. Perhaps physicians felt differently when responding to a general perception than they did when responding to expectations tied to specific individuals and groups, which resulted in inconsistent answers in the direct and indirect measures of subjective norms. Nevertheless, this finding is inconsistent with the theoretical model and deserves further study.

It is not surprising that physicians with higher scores for intention to prescribe emergency contraception held more positive beliefs and evaluations about the outcomes of prescribing than did those with lower scores. High intenders had stronger perceptions that all but one of the specific professional referents thought they should prescribe emergency contraception. Their motivation to comply with specific professional referents, however, did not differ from that of medium and low intenders except for compliance with current medical standards. This is likely why motivation to comply did not significantly correlate with intention to prescribe emergency contraception.

Both the American College of Obstetricians and Gynecologists and the Society for Adolescent Medicine have pub-

TABLE 4. Mean scores for physicians' beliefs about consequences of prescribing emergency contraception and for evaluations of those consequences, by level of intention to prescribe

Consequence	Beliefs			Evaluations		
	High (N=36)	Medium (N=39)	Low (N=17)	High (N=36)	Medium (N=39)	Low (N=17)
Reduces unintended pregnancies	2.60***	2.38	0.94\$\$\$	2.86**	2.47	2.00
Enhances reproductive options	2.45***	1.38††	0.76	2.64***	2.05†	1.12\$\$
Reduces abortions	2.20***	2.05	0.06\$\$\$	2.77	2.53	2.06
Discourages consistent contraceptive use	-1.24*	-0.38	0.12	-2.24	-1.79	-1.94
Encourages unprotected sex	-1.31**	-0.13†	0.24	-2.50	-1.87	-2.18
Causes frequent use of emergency contraception	-1.65***	-0.69††	0.24	-1.18*	-1.00	-2.13\$\$
Poses health risks	-1.82**	-1.10	-0.35	-2.32	-2.00	-2.29
Causes abortion	-2.14***	-1.44	0.35\$\$\$	-0.88**	-0.71	-2.12\$\$
Takes too much time in clinic	-2.26**	-1.51†	-0.94	-1.26	-1.03	-1.06
Is inconvenient for respondent	-2.34***	-1.67†	-0.76\$	-1.15	-0.73	-1.00

*p<0.05 for high vs. low. **p<0.01 for high vs. low. ***p<0.001 for high vs. low. †p<0.05 for high vs. medium. ††p<0.01 for high vs. medium. ‡p<0.05 for medium vs. low. \$\$\$p<0.01 for medium vs. low. \$\$\$p<0.001 for medium vs. low. Note: Possible scores for beliefs ranged from -3 (extremely unlikely) to +3 (extremely likely); possible scores for evaluation of consequences ranged from -3 (extremely bad) to +3 (extremely good).

lished practice bulletins regarding emergency contraception. The former calls for physicians and, as appropriate, their staff to be familiar with the method, to ensure that women can obtain it promptly (including by providing advance prescriptions or supplies) and to prescribe it over the phone without requiring an office visit.²⁴ The latter encourages adolescent health care providers to offer all females an advance prescription or an advance course of emergency contraception to have in the event of unprotected intercourse or contraceptive failure.²⁵ The American Academy of Pediatrics supports prescribing emergency contraception by phone (in conjunction with a patient history and follow-up visit), and instructs pediatricians to stress the method's emergency nature and inappropriateness as an ongoing contraceptive.²⁶ The American Academy of Family Physicians mentions emergency contraception only within the context of treatment of rape victims;²⁷ the method is not discussed in the organization's statement on adolescent health care, sexuality and contraception, or in its statement on reproductive decisions.

The American College of Obstetricians and Gynecologists' and the Society for Adolescent Medicine's endorsements of the method may be a factor in the high rates of prescribing among obstetricians and gynecologists nationally. Our study did not examine specialties separately, but it did find that both high and medium intendees were more inclined to want to comply with medicolegal standards, which are based in part on professional organization policy. The American Academy of Family Physicians, in its support for "the concept that no physician or other health professional shall be required to perform any act which violates personally-held moral principles,"²⁸ supports family practice physicians who decline to prescribe emergency contraception because of moral objections.

Knowledge and Demographic Characteristics

Knowledge of emergency contraception is, of course, a requisite for prescribing, and interventions that increase knowledge alone have been successful in increasing emergency contraception prescribing.²⁹ Our findings suggest that knowledge about the method is not associated with the intention or willingness to prescribe it; however, one could challenge our limited selection of knowledge questions. Current scientific thought states that pregnancy begins at implantation, not at fertilization;³⁰ this belief, however, is disputed by many, including some physicians.³¹ Although the literature is clear that emergency contraception cannot disrupt an established pregnancy, those who believe that pregnancy begins at fertilization consider the method an abortifacient; if they morally object to abortion, they object to emergency contraception on the same grounds.

Although some previous research has found that physician gender is associated with the provision of preventive counseling and screening in general,³² we found no gender difference in the intention to prescribe emergency contraception. The lack of correlation between demographic variables and intention to prescribe is consistent with the

TABLE 5. Mean scores for physicians' perception of specific professional referents' perspective on prescribing emergency contraception and motivation to comply with referents, by level of intention to prescribe

Referent	Perceived perspective			Motivation to comply		
	High (N=36)	Medium (N=39)	Low (N=17)	High (N=36)	Medium (N=39)	Low (N=17)
Professional organization	2.18	1.97	1.59	5.46	5.24	4.35
Current medical standards	2.00**	1.84	0.82†	6.51**	6.28	5.35†
Partners/colleagues	1.83*	1.59	0.82	4.51	4.54	4.41
Community physicians	1.54*	1.22	0.59	3.77	3.77	3.82

*p<.05 for high vs. low. **p<.001 for high vs. low. †p<.01 for medium vs. low. Note: Possible scores for perceived perspective range from -3 (should not) to +3 (should); possible scores for motivation to comply range from 1 (not at all) to 7 (very much).

theoretical model. No studies have shown that women physicians maintain more positive attitudes about emergency contraception than do male physicians.³³

Study Limitations

Our results must be interpreted in the light of a number of study limitations. The results cannot be generalized because the survey was conducted among convenience samples at four hospitals in the Midwest and South. Furthermore, the survey did not obtain information about patient populations, such as the proportion of adolescents among pediatricians' and family practitioners' patients or the proportion of family practitioners' patients who are women of reproductive age. In addition, because the survey was anonymous, we were unable to track nonrespondents.

Another important limitation is that we measured only intention to prescribe, not actual prescribing behavior. A prospective study design would be able to test the assumption that physicians' intention reliably predicts prescribing behavior; future research using a prospective study design is recommended.

The theory of reasoned action does not measure individuals' perceptions of their ability to control their behavior. To include such a measure, we could have used the theory of planned behavior, which Azjen developed in the mid-1980s by expanding the theory of reasoned action.³⁴ In addition to a variable for perceived behavioral control, the new theory included the extent to which individuals perceive control over their ability to engage in a behavior. However, we used the theory of reasoned action because intention to prescribe emergency contraception is within physicians' immediate control; their perceptions of whether they can prescribe emergency contraception would not add to our understanding of intention.

The knowledge quiz in the survey may not have represented a complete assessment of physicians' knowledge about emergency contraception. The major side effects associated with emergency contraception occurred with Preven, which is no longer used but which may have resulted in confusion on the part of physicians who prescribe the method infrequently.³⁵

Our elicitation interviews and pilot tests involved community physicians rather than academic faculty, who constituted our study sample, and the two groups might have

different perceptions of consequences and social referents. However, we supplemented these results with findings from the literature.³⁶

Finally, we did not rely on a validated measure in categorizing intention as high, medium or low. We assumed that physicians who scored an average of five on each item assessing intention leaned toward intending to prescribe. We categorized intention in this manner because of a belief that the greatest changes in prescribing may occur with interventions targeted to medium intenders. Low intenders are probably less amenable to intervention because of a moral bias against emergency contraception that views it as an abortifacient.³⁷

Implications for Practice

This study suggests an alternative approach to interventions aimed at increasing emergency contraception availability to women. Understanding provider attitudes and their underlying components could be a more productive direction to pursue in encouraging physicians to prescribe emergency contraception. This might be accomplished in an educational program by pretesting the group and delivering different interventions tailored to providers' intention to prescribe. Practitioners with a high score for intention might merely need reinforcement about their prescribing practices or information about advance prescriptions for all sexually active women. Interventions for practitioners with a medium score for intention to prescribe could include discussions and case scenarios about whether emergency contraception encourages contraceptive irresponsibility and leads to inappropriate reliance on the method. Results of studies addressing concerns about reliance on emergency contraception might be discussed in detail, instead of being summarized. For physicians who are low intenders or who consider it morally important to withhold emergency contraception, we would suggest making these attitudes well-known to patients and other health care providers. Such awareness could prevent women whose physician is unwilling to provide the method from experiencing embarrassment, self-doubt or the aggravation that accompanies inconvenience, not to mention the complications of delayed access to the method. A goal in working with physicians in this group might be to differentiate between personal ethics and professional ethics, and encourage them to redirect women to practitioners who would meet their reproductive health needs.

Targeted discussion for all physicians might include examining belief systems about birth control and sexuality. Particular beliefs, such as those that equate contraception with planning to have sex, may be supported by an unconscious moralizing. Exploring these beliefs, their values and the limitations they impose could result in shifting to a paradigm that recognizes the benefits of the full range of reproductive options.

Another barrier to prescribing of emergency contraception by high and medium intenders is structural, such as how much clinic time is necessary to discuss and provide the

method. This issue might be addressed by delegating responsibilities to nurses, social workers, health educators or peer educators. Clinic protocols can be developed for nurses to include discussion about emergency contraception when educating sexually active women of reproductive age about birth control options. For women specifically requesting emergency contraception, protocols could be developed, and would be appropriate, for nurses to call in prescriptions or dispense the method within clinic settings.

A troubling finding is that only 42% of respondents would readily prescribe emergency contraception to sexually active teenagers. Adolescent pregnancy truncates childhood. Although U.S. adolescent pregnancy rates are at an all-time low,³⁸ it is unrealistic for providers to think that not prescribing emergency or other contraception can change this.³⁹ Implicit in these attitudes is the assumption that withholding contraception can influence women's behavior. It may be beneficial to discuss with providers the social context of adolescent sexual activity, including the dissociation between sexual activity and contraception among many adolescents.⁴⁰

Provision of emergency contraception to rape and incest victims seems to be the least controversial indication for its use, and protocols have been recommended for offering the method to women who go to an emergency room following an incident of rape or incest.⁴¹ Indeed, the majority of the physicians in our study indicated the highest degree of intention to prescribe emergency contraception for this purpose. Nevertheless, one-quarter had reservations about prescribing emergency contraception to victims of rape and incest. More information is needed about these reservations; qualitative studies might be useful in this regard.

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