Benefits of a learner-centred abortion curriculum for family medicine residents

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Abstract

Background and methodology Despite the high prevalence of unplanned pregnancy and abortion in the USA, abortion education in medical schools and residencies is extremely limited. Regardless of their personal views, family physicians will care for many women who have abortions. This article describes the implementation and evaluation of a learner-centred abortion curriculum in a family medicine residency. Residents were surveyed at baseline to assess openness to abortion education. An abortion curriculum was developed and implemented as a routine component of training. Three to four half-day training sessions were tailored to individual residents, with varying levels of participation in providing abortion depending on learners' personal beliefs. Residents completed written surveys before and after participation in the curriculum.

Results The pre-implementation survey had a 90% response rate and showed that routine participation in an abortion curriculum was acceptable to 69% of respondents. The curriculum was implemented and evaluated from 2003 to 2006. All 39 residents participated and 28 (72%) completed both pre- and post-rotation surveys. Comparisons between pre- and post-rotation surveys demonstrated statistically significant improvements in abortion-related knowledge and self-reported comfort with abortion-related skills and significantly more favourable attitudes about abortion training.

Discussion and conclusions Residents were better prepared to care for women with unwanted pregnancies after routine participation in an abortion curriculum. For controversial topics such as abortion, a learner-centred curriculum ensures adequate education for all residents. Future research should assess how routine abortion education affects patient care and whether it results in an increased number of family physicians who provide abortion.

Keywords abortion, education, family medicine

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Introduction

In the USA nearly half of all pregnancies are unintended, and an estimated one in three women will have an abortion by the age of 45 years.[1,2] Given the high prevalence of unintended pregnancy and abortion, all physicians who treat women in the USA will care for women who have abortions. Therefore, all physicians-in-training need to learn about contraception, abortion, and options counselling for unintended pregnancy. However, a survey of USA medical students found that two-thirds of medical school curricula contain less than 30 minutes of instruction about abortion, and only one in five medical schools include basic education about abortion and pregnancy options counselling.[3] Similarly, abortion has been absent from the curriculum in the large majority of family medicine residencies.[4–6]

Several authors have evaluated abortion training curricula in family medicine residency programmes. Prine and colleagues described the integration of medical abortion services in a family medicine residency; their curricula evaluation noted good patient outcomes and increased resident and staff comfort with working in a setting that incorporated abortion.[7] Abortion training at three family medicine residency programmes in California was evaluated with retrospective resident and patient surveys.[8] Participating residents reported high levels of satisfaction, and the majority reported that they felt adequately prepared to counsel patients about pregnancy options and to provide first-trimester aspiration abortions. A qualitative study of nine family medicine programmes with required abortion training used individual interviews of residents to gather retrospective information about learners' experiences; trainees cited technical skills and continuity of care as benefits of the programme, and appreciated opportunities to discuss the emotional aspects of abortion care.[9]

Quantitative measures of educational outcomes have not been reported previously in evaluations of abortion training in family medicine. This article describes the development, implementation and evaluation of a learner-centred abortion curriculum in a family medicine residency, including quantitative self-assessment of knowledge, skills and attitudes before and after training.

Key message points

- **Despite the high prevalence of abortion in the USA, abortion education is lacking in most medical schools and family medicine residency programmes.**
- **Routine participation in an abortion curriculum was acceptable to family medicine residents and improved their knowledge, attitudes and self-reported comfort with skills related to abortion care.**
- **Future research should assess the impact of abortion education in family medicine on patient care and on provision of abortion after residency.**

Methods

This curriculum was implemented in August 2003 at Brown Medical School's family medicine residency programme, based at Memorial Hospital of Rhode Island, an urban community hospital. The study protocol was used to evaluate the curriculum from 2003 to 2006.

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Programme development

The need for training in abortion care was voiced by several residents and faculty at the residency programme. A family medicine faculty member who is a trained abortion provider developed the curriculum. The hospital that houses the residency programme has a policy against providing abortion services, so an alternative training site was needed. A local abortion clinic agreed to have family medicine residents train there on a weekly basis. The department chair and residency programme director supported inclusion of abortion in the curriculum, as long as it included a provision for residents to opt out of the training if they had personal objections to participating in abortion care.

Prior to introducing the abortion curriculum, an anonymous, two-question written survey was conducted to determine residents' openness to abortion education. At the time of the survey abortion training was available, but only as an elective experience.

The goal of the curriculum is to improve family medicine residents' ability to care for women with unwanted pregnancies. Specific learning objectives include the following:

- Provide options counselling for women with unwanted pregnancy.
- Provide accurate information about abortion and refer patients appropriately.
- Demonstrate improved primary care gynaecology skills.
- Reflect on conflicts between personal beliefs and responsibility to patients.
- Perform first-trimester abortions (optional).

Educational strategies

Third-year residents participate in the abortion curriculum during a 1-month block of gynaecology training. Each resident meets with the faculty instructor at the beginning of the rotation to discuss his/her learning goals, address concerns about participation in abortion care, and determine his/her anticipated level of involvement in providing abortion. Based on this meeting, resident learning experiences may be tailored to ensure that key learning goals will be met while respecting residents' personal beliefs. Self-study materials include a CD-ROM overview of medical and surgical abortion and the *Early Abortion Training Workbook*.[10] Residents spend three to four half-day sessions at the abortion clinic, where they receive one-on-one teaching with clinic staff (physicians, nurses, medical assistants and counsellors) and care for patients through pre-abortion counselling, ultrasound, surgical abortion and recovery. During the sessions faculty and residents routinely discuss public health issues such as economic disparities in access to abortion care and ethical issues such as potential conflicts between physicians' personal beliefs about abortion and responsibility to provide patient-centred care. For the few residents who opt not to attend the sessions at the abortion clinic, alternate sessions are arranged with the faculty member to complete a modified curriculum to meet the required learning objectives. The *Early Abortion Training Workbook* outlines a set of readings, exercises and cases involving ethical issues, counselling, referral, abortion procedures, and follow-up care for trainees opting not to participate in abortions.[10]

Programme evaluation

Written surveys were distributed to each resident before and after their participation in the abortion curriculum between August 2003 and August 2006. A four-page survey was developed for this study. The survey included questions regarding the extent of residents' previous abortion education in medical school, agreement or disagreement with statements about abortion training in family medicine, ten multiple choice questions assessing medical knowledge relating to abortion care, and ratings of self-reported comfort with seven abortion-related skills (using a five-point Likert scale, where 1 = less comfortable and 5 = more comfortable). Surveys also included open-ended questions eliciting residents' concerns about participating in abortion care (pre-rotation survey) and comments on their experiences related to abortion care, as well as suggestions to improve the curriculum (post-rotation survey). Prior to the study the questions were piloted with a faculty member and a resident to establish acceptability and comprehensibility. Names of respondents were not collected on the surveys, but a list of participants and survey numbers was maintained to match pre- and post-rotation and to send reminders to those did not complete post-rotation surveys.

Statistical analysis

Paired analyses were used to compare pre- and post-rotation survey results using SPSS software (Statistical Package for the Social Sciences, version 12.0.1, SPSS Inc., Chicago, IL, USA). The Wilcoxon signed-rank test was used to assess changes in knowledge by comparing pre- and post-rotation scores on ten multiple-choice questions related to abortion, and to measure changes in pre- and post-rotation self-assessment of skills using a five-point Likert scale. Changes in attitudes about abortion training between pre-and post-tests were assessed using a one-sample *Z*-test and McNemar test. The one-sample *Z*-test was required due to 100% agreement among respondents on one post-test measure. Responses were dichotomised to 'agree' versus 'disagree' or 'not sure' and rates of agreement with each statement were compared between pre- and post-rotation surveys. The author pooled residents' written comments in response to open-ended questions about participation in the abortion curriculum and identified recurrent themes.

Ethical approval

The study protocol was approved by the Memorial Hospital of Rhode Island's human subjects' committee.

Results

Pre-implementation surveys assessing resident openness to abortion education were completed by 35/39 residents (90% response rate). The majority (69%, $n = 27$) favoured including abortion care in the standard curriculum, although some (18%, $n = 7$) felt that it should be offered as an elective experience only. None felt that abortion should be excluded from the curriculum entirely. Sixteen respondents (41%) reported that they planned to seek elective training in abortion during residency.

All third-year residents participated in the curriculum during the 3-year study period ($n = 39$). Thirty-six participants (92%) attended the sessions at the abortion clinic; their participation ranged from observation of patient care (all clinic attendees) to hands-on training to competency in performing first-trimester aspiration abortion (six attendees, 15% of all residents). Three of the 39 residents chose not to attend the abortion clinic site due to strong personal and religious beliefs about abortion. They completed an alternative curriculum using the self-study materials and 3–4 hours of one-on-one meetings with the faculty instructor. Of the 39 residents who participated in the curriculum, 28 completed both pre- and post-rotation surveys (72% response rate). The mean age of respondents

Table 1 Family medicine resident self-assessment of abortion-related skills[a] (n = 28)

Abortion-related skill	Pre-test score	Post-test score	Mean difference (95% CI)	p
Speculum examination	4.77	4.81	0.71 (–0.11–0.25)	0.414
Assess uterine position by examination	3.77	4.19	0.46 (0.18–0.75)	0.005
Assess gestational age by examination	3.35	3.96	0.64 (0.38–0.91)	<0.001
Assess gestational age by ultrasound	2.08	3.08	1.04 (0.63–1.44)	<0.001
Refer patients for abortion	3.46	4.27	0.89 (0.49–1.29)	0.001
Discuss surgical abortion with patients	3.19	4.27	1.14 (0.72–1.56)	<0.001
Discuss medical abortion with patients	2.85	4.00	1.25 (0.82–1.68)	<0.001

[a]Mean scores measured on a five-point Likert scale, where 1 = less comfortable and 5 = more comfortable.

was 31.1 years [range 27–40, standard deviation (SD) 3.1 years] and 57% (16) were women. Thirteen (48%) reported receiving no abortion-related education in medical school and an additional four reported less than 1 hour of abortion education.

Comparisons of pre- and post-rotation responses related to skills and attitudes are shown in Tables 1 and 2. Self-reported comfort level with most abortion-related skills, including bimanual examination to assess gestational age and uterine position, first-trimester ultrasound to assess gestational age, referring patients for abortion, and discussing medical and surgical abortion with patients improved significantly after the rotation (Table 1). Resident attitudes about abortion training in family medicine were also significantly more favourable after the rotation (Table 2).

Residents had significantly more correct responses on multiple-choice questions assessing abortion-related knowledge after the rotation compared to before the rotation: mean 51.2% (SD 15.7) correct on the pre-test versus 68.8% (SD 19.1) correct on the post-test (p<0.001).

Several recurrent themes emerged in the residents' written responses to open-ended questions. Pre-rotation surveys elicited concerns about participation in abortion care. Many residents expressed emotional concerns about the training, from feeling personally conflicted about abortion or opposed to having an abortion, to worrying about having a strong emotional reaction to the experience at the clinic. Three mentioned concerns about personal safety or about being confronted by anti-abortion demonstrators at the clinic. Several also reported that although they did not personally plan to provide abortion, they felt it was important to understand abortion care to provide counselling and information to patients; they also thought they would benefit from ultrasound and bimanual examination training. Several of those who said they opposed abortion personally also mentioned that they respected their patients' rights and wanted to help patients get appropriate care if they chose to have an abortion.

Post-rotation comments were uniformly positive. Many residents reported that the abortion curriculum was valuable, important training for family physicians, and would help them in counselling patients about pregnancy options and providing follow-up care after abortion. One resident mentioned that the training "reduced many misconceptions I had". Several residents also commented that they appreciated the flexibility in the curriculum and the focus on achieving individual learning goals.

Table 2 Family medicine resident attitudes about abortion education (n = 28)

Statement	Respondents agreeing with each statement [n (%)]		p
	Pre-test	Post-test	
It is important for a primary care physician to be familiar with abortion	24 (85.7)	28 (100)	0.03
First-trimester abortion should be taught routinely in family medicine residency	15 (53.6)	23 (82.1)	0.008
Medical abortion should be taught routinely in family medicine residency	20 (71.4)	27 (96.4)	0.016

Discussion

In this study, a large family medicine residency programme successfully introduced abortion care into the standard curriculum. Support from programme administrators and faculty and collaboration with a local abortion clinic were essential to the success of the programme. The curriculum was highly acceptable to residents and resulted in improvements in their abortion-related medical knowledge, self-reported comfort with abortion-related skills, and attitudes about abortion training. This is the first study of an abortion curriculum demonstrating quantitative improvements from pre- to post-intervention assessments.

The existing scientific literature has not explicitly addressed the need for learner-centred abortion curricula. Training programmes have historically permitted residents to 'opt out' of participation in abortion and other controversial areas if they had personal or religious objections. The level of resident involvement in abortion care may need to be adjusted depending on personal beliefs about abortion; however, respect for the physician's beliefs must be balanced with his/her responsibility to provide patient-centred care to women with unwanted pregnancy. The training programme must assure that the resident is prepared to do this, even if he or she does not actually provide abortions.

This learner-centred curriculum allowed tailoring of training experiences to individual residents while meeting basic educational objectives. In spite of varying personal beliefs about abortion, all residents received education about abortion as well as mentored opportunities to reflect on conflicts between their personal beliefs and those of their patients. Providing learners with flexibility and support in choosing how to participate in the abortion curriculum may have promoted greater participation and willingness to learn about abortion. Even the residents who chose not to attend the abortion clinic due to strong personal beliefs about abortion were observed by the author to make sincere efforts to obtain the knowledge and skills needed to provide good care for their patients. Although residents' pre-participation responses to open-ended questions often focused on concerns about personal safety and emotional reactions to abortion, their comments after the experience noted the importance of abortion education in family medicine and the value of tailoring the training to individual learning goals.

Routine inclusion of learner-centred abortion education in family medicine residency is feasible and acceptable. A learner-centred approach is especially useful when dealing with a controversial area such as abortion. Finding ways for residents to participate in learning about abortion in spite of strong personal feelings about the issue means that all residents, not just those who choose to provide abortions, are prepared to care for women with unwanted pregnancy. Although situated in the relatively liberal northeast region of the USA, Rhode Island is a predominantly Catholic state with restrictive abortion policies. Successful implementation of this curriculum in this locale suggests that abortion education may be feasible in other unfavourable political climates.

This study has several limitations. The data were collected from a single residency programme. Anonymity is limited in a small training programme, so residents may tend to provide responses that would please their instructor, although this effect should be similar in pre- and post-rotation surveys. Residents with negative feelings about abortion education may be less likely to complete the survey, resulting in positively biased responses. Questions assessing medical knowledge were repeated in pre- and post-surveys, so familiarity with the questions may have contributed to increased scores despite the delay of 4 weeks or more between surveys. The documented knowledge gains after the curriculum are short term, ranging from 1 to 12 months. In addition, the outcomes rely on self-reported attitudes and self-assessment of skills. The validity of learner self-assessment has been questioned;[11] however, changes in self-assessment over time as demonstrated here may be more meaningful than a one-time self-assessment. Although the open-ended survey questions provided some insights into the learners' experiences of the curriculum, rigorous qualitative methods such as those used by Brahmi and colleagues would yield better information about trainees' experiences.[9]

More office visits in the USA are provided annually by family physicians than by any other specialty.[12] Since family physicians will serve as the point of entry into care for many reproductive age women, abortion education for all family medicine trainees has the potential to improve the care of women with unwanted pregnancy. The shortage of abortion providers in the USA currently limits access to safe abortion, especially for low-income and rural women;[13] training more family physicians to provide abortion could ameliorate this problem. More extensive abortion training during obstetrics/gynaecology residency has been associated with greater likelihood of providing abortion;[14] however, family physicians may face different barriers to incorporating abortion care into their scope of practice.

Abortion can be a difficult topic for learners and educators, as evidenced by the lack of abortion education in the majority of medical schools and residencies. However, the high prevalence of unplanned pregnancy and abortion in the USA demands that family physicians receive at least basic education about abortion, including counselling and referral, follow-up care, and ethical and legal issues.

In this study, routine participation in an abortion curriculum was acceptable to family medicine residents and resulted in several benefits including (1) improved self-reported comfort with abortion-related examination and counselling skills; (2) short-term gains in abortion-related knowledge and (3) more positive attitudes about abortion training in family medicine. Any future study should address whether these positive changes reported by residents translate into differences in how these residents care for patients with unwanted pregnancy and whether routine abortion training increases the number of family physicians who include abortion in their practice.

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