Training at a Faith-Based Institution Matters for Obstetrics and Gynecology Residents: Results From a Regional Survey

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ABSTRACT

Background Prior data suggest that opportunities in family planning training may be limited during obstetrics and gynecology (Ob-Gyn) residency training, particularly at faith-based institutions with moral and ethical constraints, although this aspect of the Ob-Gyn curriculum has not been formally studied to date.

Objectives We compared Ob-Gyn residents' self-rated competency and intentions to provide family planning procedures at faith-based versus those of residents at non-faith-based programs.

Methods We surveyed residents at all 20 Ob-Gyn programs in Illinois, Indiana, Iowa, and Wisconsin from 2008 to 2009. Residents were queried about current skills and future plans to perform family planning procedures. We examined associations based on program and residents' personal characteristics and performed multivariable logistic regression analysis.

Results A total of 232 of 340 residents (68%) from 17 programs (85%) returned surveys. Seven programs were faith-based. Residents from non-faith-based programs were more likely to be completely satisfied with family planning training (odds ratio [OR] = 3.4, 95% confidence limit [CI], 1.9–6.2) and to report they "understand and can perform on own" most procedures. Most residents, regardless of program type, planned to provide all surveyed family planning services.

Conclusions Despite similar intentions to provide family planning procedures after graduation, residents at faith-based training programs were less satisfied with their family planning training and rate their ability to perform family planning services lower than residents at non-faith-based training programs.

Introduction

Obstetrics and gynecology (Ob-Gyn) residency education must prepare trainees to become experts in all aspects of women's healthcare, including the prevention and treatment of unplanned pregnancies. The American Congress of Obstetricians and Gynecologists (ACOG) and the Council of Residency Education for Obstetrics and Gynecology (CREOG) support family planning education and abortion residency training.[1,2] Since 1996, the Accreditation Council for Graduate Medical Education (ACGME) specifies "If an [obstetrics and gynecology] residency program has a religious, moral, or legal restriction that prohibits the residents from providing abortions within the institution, the program must ensure that the residents receive satisfactory education and experience in managing the complications of abortion."[3] In an effort to improve Ob-Gyn residency family planning and abortion training, a privately funded national initiative called the Ryan Program[4] was started in 1999 to provide funding and technical expertise to Ob-Gyn departments in the United States, Puerto Rico, and Canada. The Ryan Program has successfully integrated formal family planning training at 67 of 243 Ob-Gyn residency training programs in the United States and Puerto Rico (personal communication with the Ryan Program National Office, March 13, 2013).

Survey data, however, demonstrate limited Ob-Gyn residency training opportunities in family planning, particularly at faith-based institutions with moral and ethical constraints.[5–8] A qualitative study that explored Ob-Gyn

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residency abortion training opportunities cited antiabortion values, including religious associations, as one barrier to training.[9] We found no reports in the literature of residents' perception of family planning training, particularly at faith-based programs and whether this affects their future intentions to provide such care. We hypothesized that midwestern Ob-Gyn residents at faith-based and non-faith-based training programs will differ in their perceived ability to perform family planning procedures and their plans to provide family planning procedures after graduation.

What was known

Obstetrics and gynecology residents' perceptions of their family planning training based on institutional constraints and whether this affects their intentions to provide these services has not been studied to date.

What is new

Residents at faith-based training programs were less satisfied with their family planning training and rated their ability to perform family planning services lower than residents at non-faith-based training programs.

Limitations

Regional survey, with limited ability to generalize, self-reported data, and potential selection effects.

Bottom line

Institutional constraints may affect Ob-Gyn residents' training experience and their subsequent provision of women's healthcare services.

Methods

We developed a comprehensive list of family planning patient care activities (TABLE 1) consisting of 30 counseling and 21 procedural objectives based on CREOG educational objectives,[2] the Ryan Program's publicly available curriculum,[4] and a comprehensive family planning residency curricula from a university Ob-Gyn training program.[10] We then developed an anonymous survey to assess residents' self-reported competency and intentions to counsel and perform these procedures.

The survey queried residents about personal characteristics and level of satisfaction with their family planning training (satisfied; would not make any changes; somewhat satisfied; would like more elements included; unsatisfied). For each of the counseling objectives, residents were asked if they were able to discuss with their patients the advantages, disadvantages, and failure rates, using a 4-point Likert scale (1 = strongly disagree; 2 = disagree; 3 = agree; 4 = strongly agree). For the procedural objectives, residents assessed their ability to perform the listed procedures by using a 4-point Likert scale (1 = do not understand and cannot perform; 2 = understand but cannot perform; 3 = understand and can perform with help; 4 = understand and can perform on own). We also queried participants about their intentions to counsel or perform the procedures/services following graduation, using a 3-point Likert scale (1 = will not counsel/provide; 2 = may counsel/provide; 3 = will counsel/provide). We initially piloted the survey with 4 medical students and then revised it to enhance clarity.

We distributed this cross-sectional survey during the 2008–2009 academic year to all current 20 midwestern Ob-Gyn programs in Illinois, Indiana, Iowa, and Wisconsin. At each program, a single individual distributed and collected the surveys; that individual was either a residency coordinator or a current resident, fellow, or attending. Based on a review of the program's online website, we collected program characteristics, including faith-based affiliation, number of residents, affiliation with a university program, and presence of a dedicated family planning rotation and/or Ryan program. The program coordinator confirmed and supplemented missing information. Institutional review board approval was received at Loyola University Medical Center.

We analyzed data using SPSS version 18.0 software (SPSS, Chicago, IL). We dichotomized resident satisfaction with their family planning training into satisfied versus somewhat satisfied/unsatisfied. We dichotomized the ability to counsel as strongly agree/agree versus strongly disagree/disagree and the ability to perform as "understand and can perform on own" versus all other responses. We dichotomized plans to counsel or perform following graduation as will or may counsel/provide versus will not counsel/provide. We imputed missing outcome data for ability to perform by using mean program substitution. We reviewed descriptive statistics and examined associations based on personal and program characteristics using a Fisher exact test and Pearson χ^2 test. We performed multivariable logistic regression and included program type and any personal variables associated with the outcome in univariable analyses at a P value of $< .2$.

Results

We received surveys from 17 Ob-Gyn residency training programs (85% program response rate) representing all of the states we surveyed. Seven of these programs had a faith-based affiliation (FIGURE). TABLE 2 describes program characteristics: Non-faith-based programs trained more residents, were more often affiliated with a university program, and were more likely to have a dedicated family planning rotation and/or Ryan program.

We received 232 resident surveys from the 17 programs that participated, accounting for a 68% resident response

TABLE 1 **List of Survey Items**

Contraception	Sterilization	Management of Spontaneous/Induced Abortion
Counseling Objectives		
Natural family planning	Female sterilization	Screening examination with abdominal ultrasonography
Lactation's contraceptive effect	Abdominal sterilization	Identification of early pregnancy failure by ultrasonography features
Barrier methods	Laparoscopic sterilization	Medical abortion
Spermicide use	Hysteroscopic sterilization	Medical abortion: methotrexate and prostaglandin
Oral steroid contraception	Male sterilization	Medical abortion: mifepristone and prostaglandin
Transdermal steroid contraception		Medical abortion: prostaglandin only
Vaginal steroid contraception		Pain options for an abortion
Injectable steroid contraception		Suction curettage
Progestin-only contraception		Manual vacuum aspiration
Noncontraceptive benefits of contraception		Electric vacuum aspiration
Implantable steroid contraception		Dilation and evacuation
Intrauterine devices–contraceptive benefits		
Intrauterine devices–noncontraceptive benefits		
Postcoital contraception		
Procedural objectives		
Placement of a diaphragm	Abdominal sterilization	Screening examination with abdominal ultrasonography
Placement of a cervical cap	Laparoscopic sterilization	Transvaginal ultrasonography for early pregnancy
Prescription of reversible contraceptive methods	Hysteroscopic sterilization	Safe preparation for an abortion procedure
Injection of steroid contraception		Paracervical block
Contraceptive implant insertion		Laminaria insertion
Intrauterine device insertion		Menstrual extraction
Removal of intrauterine device		Suction curettage
		Manual vacuum aspiration
		Electric vacuum aspiration
		Dilation and evacuation

rate. There were no differences based on program type ($P = .08$). TABLE 3 demonstrates respondents' personal characteristics. Most respondents, regardless of program type, reported they were female, Roman Catholic, pro-choice, and planned on practicing general Ob-Gyn. The only difference we found in respondent characteristics based on program type was in relation to satisfaction with family planning training; residents at non-faith-based programs were 3.4 times more likely (95% confidence interval, 1.9–6.2) to report feeling completely satisfied than residents at faith-based programs.

Survey responses about the listed counseling objectives were overall high: the average response rate for ability to counsel was 88% and 95% for plans to counsel. No further analysis was performed for the counseling objectives given high response rates. For procedural objectives, we focused analysis on self-reported performance competency and intentions to provide 10 family planning procedures, grouped into the 4 following categories: (1) long-acting reversible contraception (insertion of intrauterine device [IUD], placement of implantable contraception); (2) interval sterilization (laparoscopic sterilization, hysteroscopic sterilization); (3) first-trimester uterine evacuation tech-

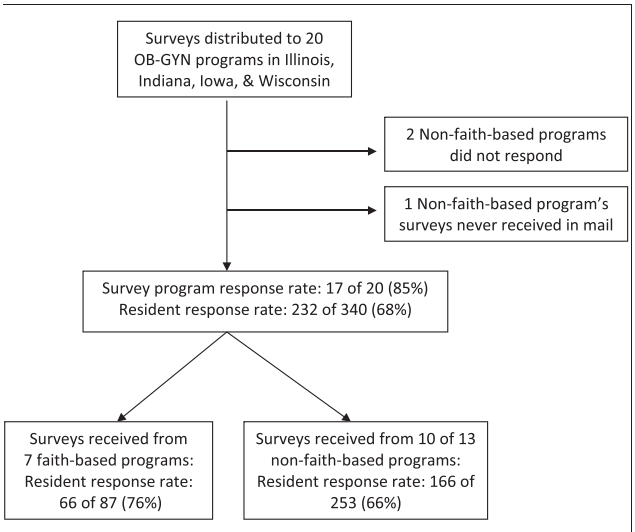

FIGURE **Study Flow Diagram**

niques (suction curettage, manual vacuum aspiration [MVA], electric vacuum aspiration [EVA] and paracervical block); and (4) second-trimester uterine evacuation techniques (laminaria placement, dilation and evacuation [D&E]). We eliminated the remainder of the procedural objectives for reasons such as not commonly performed, little technical skill needed, or outdated procedure.

TABLE 4 demonstrates overall response rates for ability to perform and according to 3 program characteristics (non-faith-based affiliation, dedicated family planning rotation, and Ryan training program). Overall, more residents felt that they could insert an IUD or perform laparoscopic sterilization "on their own" as compared to implantable contraception insertion or hysteroscopic sterilization performance. The majority of residents felt competent performing suction curettage (77%), while a much smaller percentage (27%) reported they felt they could perform D&E. Residents at non-faith-based programs reported higher rates of competency for the most of the surveyed procedures. Findings were similar for residents at programs with a dedicated rotation or Ryan training program. As residents progressed through their training, they reported increasing levels of competency (TABLE 5).

To examine our primary hypothesis, we performed multivariable regression analysis to control for any potential confounders. We included faith-based association as the only program characteristics given the overlap with other characteristics, such as rotation or Ryan program. For all multivariable models, we entered year of training and then entered abortion attitude and/or personal religion if it was found to be significant in bivariate analysis ($P < .2$). Gender and career plans were not significantly correlated with any of the procedures and were not entered into any of the models. For all examined procedures, differences between faith-based and non-faith-based program respondents persisted.

The majority of residents planned to perform all of the listed family planning procedures, including D&E (68%). TABLE 6 demonstrates responses for residents' plans to perform specific procedures; there were no differences based on program type.

Discussion

Our survey highlights the fact that satisfaction with family planning training and self-rated ability to perform family planning procedures appear to be lower for residents at faith-based training programs. Despite program type differences in reported competency, residents who match at faith-based programs do not appear to differ in the type of care they plan to provide to their patients. Although residents at faith-based institutions were 5 times less likely

TABLE 2 **Program Characteristics by Program Type**

Program Characteristic	Faith-Based Programs (n = 7)	Non-Faith-Based Programs (n = 10)
Mean number of residents/year, (SD; range)	3.1/(.7; 2–4)	6.3/(2.5; 2–11)
University-affiliated	14%	90%
Dedicated family planning rotation	0%	60%
Ryan program	0%	50%
Religious affiliation		
Catholic	57%	NA
Other Christian	43%	

Abbreviations: SD, standard deviation; NA, not applicable.

TABLE 3 **Summary of Respondents' Personal Characteristics by Program Type**

Respondent Characteristic	Faith-Based Programs (n = 66) (%)	Non-Faith-Based Programs (n = 166) (%)	P*
Postgraduate year level			
1	15 (22.7)	41 (24.7)	.91
2	19 (28.8)	47 (28.3)	
3	17 (25.8)	36 (21.7)	
4	15 (22.7)	42 (25.3)	
Sex[a]			
Male	7 (12.3)	21 (13.0)	1
Female	50 (87.7)	140 (87.0)	
Religion[b]			
Roman Catholic	25 (41.0)	46 (27.7)	.29
Christian denominations	13 (21.3)	45 (27.1)	
Other religions	11 (18.0)	39 (23.5)	
Unaffiliated/no response	12 (19.7)	36 (21.7)	
Abortion attitude[b]			
Pro-choice	38 (62.3)	120 (72.3)	.27
Pro-life	13 (21.3)	22 (13.3)	
No comment/undecided	10 (16.4)	24 (14.5)	
Career plan[b]			
Generalist	43 (70.8)	104 (62.7)	.2
Any fellowship	9 (14.8)	43 (25.9)	
Unsure/no response	9 (14.8)	19 (11.4)	
Satisfaction with family planning training			
Satisfied	27 (40.9)	117 (70.5)	<.001
Somewhat satisfied/Unsatisfied	39 (59.1)	49 (29.5)	

Data are n (%) unless otherwise specified.

[a] Responses for 14 participants were not received.

[b] Responses for 5 participants were not received.

* *P* values were calculated using the Fisher exact test for all categorical variables except religion and career plans, in which case a Pearson χ^2 test was used.

to feel competent at performing D&E, over 68% of all residents planned to provide D&E regardless of where they received their training.

Differences in training are likely to impact the provision of care that residents provide following graduation. Physicians who provide abortion care in practice are more likely to have received abortion training during their residency.[11–13] Experience with abortion during training also impacts the provision of other aspects of gynecologic care following graduation. For instance, in a survey of 308 practicing Ob-Gyns, Dalton and colleagues[13] found that induced abortion residency training was associated with the subsequent use of office-based uterine evacuation for early pregnancy failures. This is consistent with our findings that residents from non-faith-based programs reported higher rates of competency with MVA and paracervical block, first-trimester uterine evacuation techniques that are more commonly performed in the outpatient setting. These training differences may also impact healthcare costs; when effective contraception is offered and uterine evacuation is performed in the outpatient setting, they are more cost-effective than in the inpatient setting.[14–16]

There are limitations to this regional survey. The results may not be generalizable to residents training outside of the

TABLE 4 **Residents Reporting They "Understand and Can Perform on Their Own" by Program Type**

Family Planning Skill	Total Residents n = 232 (%)	Non-Faith-Based n = 166 (%)	*P**	Dedicated Rotation n = 123 (%)	*P**	Ryan Program n = 105 (%)	*P**
Long-acting reversible contraception							
Contraceptive implant insertion	100 (43.1)	79 (47.6)	.04	61 (49.6)	.05	47 (44.8)	.69
Intrauterine device insertion	187 (80.6)	142 (85.5)	<.01	107 (87)	.01	90 (85.7)	.10
Interval sterilization							
Laparoscopic sterilization	135 (58.2)	105 (63.3)	.02	78 (63.4)	.11	66 (62.9)	.23
Hysteroscopic sterilization	103 (44.4)	78 (47)	.24	55 (44.7)	1	49 (46.7)	.60
First-trimester uterine evacuation techniques							
Suction Curettage	179 (77.2)	129 (77.7)	.73	99 (80.5)	.21	83 (79)	.64
Manual Vacuum Aspiration	105 (45.3)	90 (54.2)	<.001	70 (56.9)	<.001	60 (57.1)	.001
Electric Vacuum Aspiration	113 (48.7)	86 (51.8)	.15	66 (53.7)	.12	56 (53.3)	.24
Paracervical block	162 (69.8)	132 (79.5)	<.001	103 (83.7)	<.001	87 (82.9)	<.001
Second-trimester uterine evacuation techniques							
Laminaria insertion	113 (48.7)	97 (58.4)	<.001	71 (57.7)	<.001	63 (60)	<.001
Dilation and evacuation	62 (26.7)	57 (34.3)	<.001	43 (35)	<.01	40 (38.1)	.001

Data are n (%).

* *P* values were calculated using the Fisher exact test.

TABLE 5 **Residents Reporting They "Understand and Can Perform on Their Own" by PGY Level***

Family Planning Skill	PGY-1 n = 56 (%)	PGY-2 n = 66 (%)	PGY-3 n = 53 (%)	PGY-4 n = 57 (%)	*P**
Long-acting reversible contraception					
Contraceptive implant insertion	18 (32.1)	27 (40.9)	21 (39.6)	34 (54.6)	<.01
Intrauterine device insertion	33 (58.9)	60 (90.9)	43 (81.1)	51 (89.5)	<.001
Interval sterilization					
Laparoscopic sterilization	8 (14.3)	39 (59.1)	38 (71.7)	50 (87.7)	<.001
Hysteroscopic sterilization	5 (8.9)	26 (39.4)	29 (54.7)	43 (75.4)	<.001
First-trimester uterine evacuation techniques					
Suction Curettage	27 (48.2)	53 (80.3)	47 (88.7)	52 (91.2)	<.001
Manual Vacuum Aspiration	13 (23.2)	27 (40.9)	28 (52.8)	37 (64.9)	<.001
Electric Vacuum Aspiration	12 (21.4)	31 (47.0)	29 (54.7)	41 (71.9)	<.001
Paracervical block	29 (51.8)	46 (69.7)	37 (69.8)	50 (87.7)	<.001
Second-trimester uterine evacuation techniques					
Laminaria insertion	11 (19.6)	29 (43.9)	28 (52.8)	40 (70.2)	<.001
Dilation and evacuation	4 (7.1)	17 (25.8)	15 (28.3)	26 (45.6)	<.001

Abbreviation: PGY, postgraduate year.
Data are n (%).

* *P* values were calculated using the χ^2 test for trends across all PGY levels.

TABLE 6 **Residents Reporting They "Will Provide" or "May Provide" by Program Type**

Family Planning Skill	Faith-Based (n = 56) (%)[a]	Non-Faith-Based (n = 166) (%)	*P**
Long-acting reversible contraception			
Contraceptive implant insertion	53 (94.6)	161 (97)	.42
Intrauterine device insertion	56 (100)	163 (98.2)	.57
Interval sterilization			
Laparoscopic sterilization	56 (100)	161 (97)	.33
Hysteroscopic sterilization	56 (100)	162 (97.6)	.57
First-trimester uterine evacuation techniques			
Suction curettage	47 (83.9)	151 (91)	.14
Manual vacuum aspiration	44 (78.6)	148 (89.2)	.07
Electric vacuum aspiration	44 (78.6)	147 (88.6)	.08
Paracervical block	56 (100)	161 (97)	.33
Second-trimester uterine evacuation techniques			
Laminaria insertion	51 (91.1)	147 (88.6)	.80
Dilation and evacuation	36 (64.3)	115 (69.3)	.51

Data are n (%).

[a] 10 surveys with missing data.

* *P* values were calculated using the Fisher exact test.

Midwest. Applicants for Ob-Gyn residency interested in abortion training may have preferentially applied to and ranked non-faith-based programs that provide training. We did not provide an explanation for the surveyed procedures, so some residents, particularly those without training, may not have been familiar with them. For example, more residents were familiar with suction curettage than specific types such as manual or electric vacuum aspiration. We also did not specify indications for procedures; certain residents may be willing to provide evacuation services for certain indications. We used a self-reported measure of procedural skills, which may be inaccurate, although prior investigators reported that Ob-Gyn residents if anything, rated themselves lower than faculty observers.[17] A more valid description of procedural competence would need external assessments such as case logs or external evaluations blinded to program type. We found lower reported competence rates within the entire cohort for newer methods, such as implant insertion and hysteroscopic sterilization, and greater reported competence among the upper-year residents, suggesting that our measure of exposure to the procedures has some validity.

Finally, it is possible that there are explanations other than faith-based affiliation to explain the disparities we noted. We did not assess whether residents felt less satisfied or competent about other aspects of Ob-Gyn care. For example, the faith-based programs in our study tended to be smaller community programs and, thus, may have lacked resources and/or exposure to adequate patient volumes. The presence of a dedicated rotation and/or Ryan training program was assessed and appeared to reflect some of the differences we found. While these may be considered underlying factors for training differences, it is important to note that none of the faith-based programs had a dedicated rotation or Ryan program, likely secondary to institutional considerations.

There are consistent guidelines from ACOG and CREOG that recognize that all Ob-Gyn programs should expose their residents to comprehensive family planning training. We recognize that given institutional constraints, faith-based programs are often unable to provide family planning services and train their residents on-site. Such programs may consider dedicated family planning educational sessions[18] and/or collaboration with off-site providers to train their residents. Electronic-learning (E-learning) family planning courses may also help complement training curricula. We anticipate that improving reproductive health care education, particularly at faith-based programs, will have lasting impacts on patient care. Improving residency training may impact how confident graduating residents, regardless of their personal moral values, feel about providing family planning services.

Conclusion

Our findings reflect the impact of institutional constraints on Ob-Gyn residents' training experience and their provision of women's healthcare services. Despite similar intentions to provide family planning procedures after graduation, residents at faith-based training programs were less satisfied with their family planning training and rated their ability to perform family planning procedures lower than residents at non-faith-based training programs.

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