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Evaluation of Association Between Gynecologic Oncology Fellowship Length and a Career in Academic Medicine

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Abstract

The purpose of this study is to determine the association between gynecologic oncology fellowship training factors, including fellowship length, and a career in academic medicine. A survey was sent to all 980 gynecologic oncologists identified via the SGO membership directory. The survey questions focused on demographics, fellowship training, practice- type, and research involvement. Demographics of the study population and survey responses were reported using frequencies and percentages. Chi-squared tests were used to test for associations between selected survey responses and length of fellowship. The authors received 410 (42 %) responses. Most respondents (60 %) graduated from a 3-year fellowship, while 27 and 13 % attended 2- and 4-year fellowships, respectively. Practice descriptions included academic/university (52 %), community/private practice (21 %), private practice with academic appointment (20 %), and other (7 %). A majority (64 %) reported current involvement in research as a principal investigator (PI); however, 54 % reported spending 10 % or less of their time in research-related activities. Approximately half reported that their fellowship research experience contributed to their current practice. Graduates of 3- and 4-year fellowships had similar rates of employment in academic/university settings (58 and 52 %, respectively). Graduates of 4-year fellowships were more likely to hold an advanced degree and 11 or more publications at completion of fellowship. A majority of graduates of a gynecologic oncology fellowship practice in an academic/university setting and are involved in research. Fellowship length does not correlate with a current academic medicine appointment. Graduates of 4-year fellowships are more likely to hold additional advanced degrees and more publications.

Keywords

Gynecologic oncology; Fellowship; Training

Compliance with Ethical Standards

Conflict of Interest

The authors report no conflict of interest.

Introduction

The goal of fellowship is to educate and train physicians to provide consultation and comprehensive management of women with gynecologic malignancies. Currently, there are 46 American Board of Obstetrics and Gynecology (ABOG)-approved fellowships in gynecologic oncology. All fellowship programs are at least 3 years long with 12 months dedicated to research and 24 months dedicated to clinical/surgical endeavors. Some programs are 4 years in duration with the additional year primarily dedicated to research and/or training in additional women's health services, such as breast surgery. The objective of our study was to evaluate factors which are associated with career type, with a focus on determining if the duration of fellowship training is associated with a post-fellowship position in academic medicine.

Method

A survey was written which contained multiple choice, ordinal, and categorical scale questions (Table 1). The survey focused on demographics, fellowship training, current practice type, and research involvement. We used the Society of Gynecologic Oncologists (SGO) membership directory to identify fellowship-trained oncologists. The SGO website membership directory was searched on August 18, 2013. The inclusion criterion was self-identification as a "Gynecologic Oncologist." Exclusion criteria included absence of an email address in the SGO directory, trained or practicing outside of the USA, or if they had previously opted out of online surveys. The surveys were sent via electronic mail with an explanation of the purpose of the survey, as well as a statement that participation in the survey was voluntary and that responses would remain anonymous. The study population was defined using descriptive statistics. Demographics of the study population and survey responses were reported using frequencies and percentages. Chi-squared tests were used to test for associations between selected survey responses and length of fellowship. Statistical significance was measured at $p < 0.05$.

Results

We identified 1078 potential subjects with our query of the membership directory, 98 of whom were excluded based on aforementioned criteria. Of the 980 people surveyed, 410 responded, a 42 % response rate. Sixty-one percent of respondents were male. Over half (55 %) reported participating in the match to obtain a fellowship position. A majority (60 %) graduated from a 3-year fellowship, while 27 and 13 % attended 2-and 4-year fellowships, respectively. Current practice descriptions included academic/university (52 %), community/private practice (21 %), private practice with academic appointment (20 %), and other (7 %). As part of their current practice, most (82 %) were involved in residency training and over a third (35 %) trained fellows.

Comparisons were made between those who attended 3-and 4-year fellowships. In response to the question about which factors strongly influenced their decision to select a 3-or 4-year fellowship, the two most common answers in both groups were "attracted by the surgical volume/patient population/faculty/reputation" (43 %) and "where happened to match"

(28 %) (Table 2). Overall, respondents who attended a 3- or 4-year fellowship did not significantly differ regarding factors which influenced their fellowship choice with the exception of “financial” which was cited by 10 % of 3-year fellowship graduates, but not by those who attended a 4-year fellowship ($p = 0.04$).

A majority (82 %, 42/51) of 4-year fellowship respondents graduated after the year 1999. Therefore, we restricted our comparison between 3- and 4-year fellowship attendees to those who graduated in the year 2000 or later ($N = 159$ and $N = 42$, respectively). Three- and 4-year fellowship graduates had a similar rate of current employment in an academic/university practice, 58 and 52 %, respectively (Table 3). Graduates of a 4-year fellowship were more likely to hold additional advanced (MPH, MS, MBA, PhD) degrees (48 % versus 20 %; $p < 0.001$) and have >10 publications at the completion of fellowship (43 % versus 18 %; $p < 0.001$). Of the 63 people who responded that they had an advanced degree, 29 (46 %) received their degree before entering fellowship, 25 (39.7 %) during fellowship, and 9 (14.3 %) after fellowship. Four of those receiving their degree post-fellowship and five of those receiving it after fellowship matriculated from a 2-year fellowship. A similar percentage of graduates of 3- and 4-year fellowships reported greater than 10 publications at time of survey (52 and 57 %, respectively; $p = 0.55$). There was no statistically significant difference between groups with regards to training residents and fellows and involvement with research as a PI.

When queried if they would recommend a 3- or 4-year fellowship, a large proportion in each group (42 % of 3-year graduates and 50 % of 4-year graduates) answered “It depends,” with most (63 %) basing their recommendation on the goals of the individual fellow. For fellows wanting to be heavily involved in research, they recommended 4 years; whereas for those desiring a career in private practice or a clinically focused academic career, a 3-year fellowship would be adequate. The other popular theme (17 %) in individualized recommendations was based on the curriculum of the research years, with an emphasis on the quality of the research experience, not just quantity of time in the lab.

Sixty-four percent of survey responders reported currently being involved in research as a primary investigator (PI). A majority (63 %) of respondents reported spending 10 % or less of their time in research-related activities. Approximately half (53 %) of respondents thought their fellowship research experience contributed to their current practice.

Discussion

The goal of gynecologic oncology fellowships are to train physicians in the care of women with gynecologic cancers and to acquire the knowledge required to perform research to improve the care of these women in the future. The goal of our study was to determine factors, including duration of fellowship training, associated with post-fellowship career type. In our survey of over 400 gynecologic oncologists, half currently practice in an “academic/university” setting, a similar proportion of whom graduated from 3- and 4-year fellowship programs, demonstrating that fellowship length was not predictive of an academic career. Four-year fellowship respondents were more likely to have a greater number of publications at the completion of fellowship and to have advanced degrees.

While the reported proportion of gynecologic oncologists practicing in academic and private practice settings in our study is consistent with prior studies, it is in contrast to prior reports, in which 78 % of fellows planned on pursuing a career in an academic practice and the 72 % who planned on performing a combination of both basic science and clinical research [1]. These findings highlight the discrepancy between stated plans to pursue academics and ultimate practice type. Efforts are needed to elucidate correlations between fellowship training and current practice type.

In an attempt to determine key factors in pursuing a career in academic medicine and an interest in research, Lyle et al. surveyed oncology fellows (hematologic, medical, and radiation) [2]. Formal research training and involvement in clinical research in fellowship were associated with an interest in clinical research after fellowship. That interest, along with protected academic time, was strongly associated with practicing in an academic setting. The authors suggested that a strategy to encourage post-fellowship academic positions is to develop formalized research training and a mentorship program while acknowledging that the decision to pursue academic medicine is multifactorial [3].

A focus on research during fellowship must be balanced with the fact that training in a surgical specialty requires dedicated time to achieve competency. With the need for gynecologic oncology fellows to develop expertise in an ever increasing number of skills in a similar period of time, some have proposed a maximal priority given to surgical training. In a survey of gynecologic oncologists, over two thirds reported that surgical training should receive greater emphasis by allocating time currently used for laboratory research [4]. Of those surveyed, half thought that laboratory research should be abandoned or undertaken only at the fellow's discretion and another 18 % recommended 6 months or less of lab exposure. This is in part due to the perceived lack of ultimate utility of lab research in fellowship, as a majority of gynecologic oncologists doubted that they were capable of producing translational research.

Our study has several limitations inherent in a survey, including the 42 % response rate and its associated non-response bias, whereby any difference which may exist between responders and non-responders cannot be assessed. However, by querying practicing surgeons we have the advantage of their reflection on fellowship experience. Selection bias was avoided by sending the survey to all gynecologic oncologists. Self-reporting bias is acknowledged as another limitation of any survey study.

Fellowship programs have the difficult task of accounting for and appropriately navigating the ever changing medical, educational, and financial landscape. Fellows are expected to develop proficiency in an ever increasing number of diagnostic and therapeutic modalities, with varying and oft protracted learning curves (e.g. robotic surgery, fertility-sparing surgery). Furthermore, the population is getting older, more obese, with more medical comorbidities [5]. Also, the Affordable Care Act represents a profound change in the way healthcare is going to be funded, delivered, monitored and reimbursed. Additionally, fellowship accreditation will now fall under the supervision of the Accreditation Counsel for Graduate medical Education (ACGME). This transition will hopefully bring with it some standardization of goals and milestones in gynecologic oncology fellowship research.

Considering all these revolutionary transformations, fellowship training faces many challenges with regards to training duration, content and emphasis. A deeper understanding of the factors that influence career choice after fellowship will help training programs best prepare gynecologic oncologists for the current practice climate. A survey such as this is important in that it broaches relevant topics concerning appropriate training with regards to duration of fellowship and the elements of that experience.

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Table 1

Survey questions and answer choices

Demographic questions	Answer choices
What is your gender?	Male Female
In what year did you complete your fellowship?	Free text
Did you participate in the Match to obtain your fellowship position?	Yes No
What was the length of your fellowship?	1 year 2 years 3 years 4 years
Selection questions	Answer choices
What factors do you think most strongly influenced your decision to select a 3-year fellowship?	Financial—a shorter fellowship provides the opportunity to enter practice earlier. Logistical—geography, climate, family considerations Experiential - Attracted by the surgical volume/patient population/faculty/reputation of the program Academic—less interest in doing basic science research That's just where I happened to match Other (please specify)
What factors do you think most strongly influenced your decision to select a 4-year fellowship?	Financial—a 4-year fellowship provides the possibility of higher earning potential Logistical—geography, climate, family considerations Experiential—attracted by the surgical volume/patient population/faculty/reputation of the program Academic—more interest in doing basic science research Academic—additional degree offered during the fellowship That's just where I happened to match Other (please specify)
How would you describe your current practice?	Academic/university Community hospital/private practice Private practice with academic appointment Other (please specify)
Do you train residents?	Yes No
Do you train fellows?	Yes No
What is the length of fellowship you are associated with?	3 years 4 years
Research questions	Answer choices
How many publications did you have at the completion of fellowship?	less than 5 5–10

Demographic questions	Answer choices
	11–15
	16–20
	more than 20
Current number of publications:	less than 5
	5–10
	11–15
	16–20
	more than 20
Are you currently involved with research as a principal investigator?	Yes
	No
Would you characterize your research as primarily clinical or laboratory based?	Clinical
	Laboratory
	Equally mixed
Percent of time spent per week on research?	Free text
Miscellaneous questions	Answer choices
Do you hold any other advanced degrees?	MPH
	MS
	MBA
	PhD
	None
	Other (please specify)
Did you acquire this degree before, during, or after your fellowship?	Before
	During
	After
Do you think your research experience in fellowship contributed to your current practice?	Yes
	No
Would you recommend a 3- or 4-year fellowship?	3 years
	4 years
	If it depends, what are your criteria?
Why do you recommend a 3-year fellowship?	Free text
Why do you recommend a 4-year fellowship?	Free text

Table 2

Factors influencing selection of 3- or 4-year fellowship

	3 years (N = 244)	4 years (N = 51)	p value
Financial			
A shorter fellowship provides the opportunity to enter practice earlier	25 (10 %)	0 (0 %)	0.04
A 4-year fellowship provides the possibility of higher earning potential			
Logistical			
Geography, climate, family considerations	49 (20 %)	9 (18 %)	NS
Experimental			
Attracted by the surgical volume/patient population/faculty/reputation	103 (42 %)	24 (47 %)	NS
Academic			
Less interest in doing basic science research	47 (19 %)		NS
More interest in doing basic science research		9 (18 %)	
Additional degree offered during the fellowship		10 (20 %)	
Where happened to match	69 (28 %)	14 (28 %)	NS
Other	38 (16 %)	2 (4 %)	NS

Respondents could choose more than one option *NS* not significant

Table 3

Comparison of graduates of 3- and 4-year fellowships

	3 years (N = 159)	4 years (N = 42)	p value
Current practice			
Academic/university	92 (58 %)	22 (52 %)	0.59
Community hospital/private practice	24 (15 %)	10 (24 %)	
Private practice with academic appointment	31 (20 %)	8 (19 %)	
Other	11 (7 %)	2 (5 %)	
Train residents			
No	26 (16 %)	7 (17 %)	0.96
Yes	133 (84 %)	35 (83 %)	
Train fellows			
No	102 (64 %)	21 (51 %)	0.13
Yes	57 (36 %)	20 (49 %)	
Number of publications at completion of fellowship			
<5	66 (42 %)	12 (29 %)	0.004
6–10	64 (41 %)	12 (29 %)	
11–15	14 (9 %)	7 (17 %)	
16–20	9 (6 %)	4 (10 %)	
>20	5 (3 %)	7 (17 %)	
Number of current publications			
<5	32 (20 %)	10 (24 %)	0.09
6–10	43 (27 %)	8 (19 %)	
11–15	25 (16 %)	5 (12 %)	
16–20	13 (8 %)	0 (0 %)	
>20	44 (28 %)	19 (45 %)	
Research experience contributed to current practice			
No	71 (45 %)	16 (38 %)	0.43
Yes	87 (55 %)	26 (62 %)	
Currently involved in research as principal investigator			
No	49 (31 %)	14 (33 %)	0.77
Yes	109 (69 %)	28 (67 %)	
Hold additional advanced degree(s)			
No	128 (81 %)	22 (52 %)	<0.001
Yes	31 (20 %)	20 (48 %)	