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REFLECTION

A Survey Regarding the Knowledge, Attitudes, and Beliefs of Graduates of Cancer Rehabilitation Fellowship Program

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Abstract

Currently there are limited options for physiatrists to further subspecialize in cancer rehabilitation. Since 2007, few cancer rehabilitation fellowship programs have been started. There is currently absolutely no information about such training programs and their graduates. This study is the first to survey a small number of graduates from two cancer rehabilitation fellowship programs. The purpose of this study was to report characteristics, attitudes, and beliefs of cancer rehabilitation fellowship graduates. Graduates of cancer rehabilitation fellowship programs from 2008 through 2015 responded to a 26-question survey. Information collected included exposure to cancer rehabilitation prior to fellowship training, usefulness of fellowship training program, information about current practice, and suggested areas of improvement. The setting of the study is online survey. Participants were graduates of two cancer rehabilitation fellowship programs from 2008 through 2015. Participants were contacted via email about completion of an online survey and information was collected anonymously. Primary outcome measure was satisfaction of respondents with their fellowship training program in meeting the rehabilitation needs of their cancer patients. Sixteen responses, with a response rate of 89%, were recorded. Sixty-three percent of the respondents had exposure to cancer rehabilitation prior to post-graduate year 3 (PGY-3). Majority of graduates had practice involving at least 50% of care to cancer patients. Fifty percent indicated that their position was specifically created after their job interview. Career development was one of the major areas of suggested improvement in training. Graduates of cancer rehabilitation fellowship programs strongly value their training. Majority of the graduates were able to continue their career into jobs that were primarily cancer rehabilitation related. Further work needs to be done to define this subspecialty further and incorporate building practice as part of this training.

Keywords Cancer · Rehabilitation · Education · Fellowship

Background and Rationale

Currently, the American Board of Physical Medicine and Rehabilitation recognizes subspecialty training in Brain Injury Medicine, Hospice and Palliative Medicine, Neuromuscular Medicine, Pain Medicine, Pediatric Rehabilitation Medicine, Spinal Cord Injury Medicine, and Sports Medicine [1]. Cancer rehabilitation is a subspecialty that is experiencing growth and is being increasingly recognized. Cancer is a common, complex, and chronic diagnosis with increasing prevalence. There are nearly 15.5 million cancer survivors [2] which is a far greater number than combined population estimates of traditional traumatic spinal cord injury, multiple sclerosis, and brain injury cases requiring hospitalizations [3–5]. With improvements in medical care and earlier diagnosis, cancer has become more of a chronic disease [6]. Unfortunately, cancer and related treatments can have devastating impact on functional status and quality of life for patients [7, 8].

Cancer rehabilitation is defined as an approach that improves the function and quality of life of patients and their families throughout the course of cancer [9, 10]. Further subspecialty training in cancer rehabilitation can prepare physiatrists with the ability to provide optimal rehabilitation care to cancer patients. While this PM&R subspecialty has experienced growth, currently there are limited options for physiatrists to further subspecialize in this field. This study is the first

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to survey a relatively small number of graduates from two cancer rehabilitation fellowship programs since 2008 about their attitudes and beliefs.

The objective of this study was to report characteristics, attitudes, and beliefs of cancer rehabilitation fellowship program graduates.

Methods

This survey was conducted among cancer rehabilitation fellowship program graduates from two institutions with such programs in 2015. The survey included 26 questions and took approximately 15 min to complete. The survey included the following items: (a) exposure to cancer rehabilitation prior to fellowship training, (b) usefulness of training program preparing for taking care of rehabilitation needs in cancer patients, and (c) information about current practice including volume, duration, type of practice, percentage of cancer patient seen and the setting in which they are seen, administrative role in promoting cancer rehabilitation, number of colleagues practicing cancer rehabilitation, and their role in education of trainees. The survey also collected demographic data, which included age, race, and gender. Information was collected when the candidates first thought of cancer rehabilitation as a subspecialty, exposure to cancer rehabilitation during their Physical Medicine and Rehabilitation residency program and the type of setting in which such exposure occurred, personal exposure to cancer, location of fellowship, and year of completion. Graduates were specifically asked on a Likert scale about how well they felt about training programs preparing them to meet the rehabilitation needs of cancer patients. Settings for training including inpatient rotation and consult- and outpatient-based service were noted. Post-graduate work-related information such as percentage of practice involving cancer patients, type of practice, affiliation of practice, nature of job position, administrative duties, colleagues also providing cancer rehabilitation services, estimate of annual growth rate in volume of cancer patients seen, and clinical time in settings where rehabilitation is provided to cancer patients were all collected. Clarification was sought on academic nature of work with protected time and educational activities. Finally, graduates were asked to comment on areas in training needing further improvement.

All of the cancer rehabilitation fellowship graduates were identified from these two programs. These individuals were then sent an invitation to participate in an email signed by the investigators. The email explained the nature and importance of the study to the participants. The survey link was included in the email. The online survey included at the top of the web page a standard consent statement for the participants to read prior to proceeding with the survey. All information collected in this survey of graduates were collected anonymously, and all their responses were emailed directly to a data manager within the Palliative, Rehabilitation, and Integrative Medicine department who removed any identifying features from all data, and the investigators did not have access to identifiable information.

This study aimed for a response rate of no less than 80%. For those participants who did not respond within 10 days, reminder emails were sent by the data manager, followed by another email to those who do not respond by day 20. A total of up to six emails (approximately one email a week) were sent to each participant. The study was approved by Institutional Review Board.

Descriptive statistics were computed. Sub-analyses were performed for graduates from two programs on how and where they spent time during their training, as well as the venues in which they are currently providing ongoing clinical care.

Results

The number of graduates from two cancer rehabilitation fellowships between 2008 and 2015 defined the sample size (n = 18). There were a total of ten graduates from the first and eight from the second. Sixteen of the eighteen (89%) graduates responded. Data available from each questionnaire was

Table 1 Fellowship graduate characteristics

Current mean (SD) age (years)	36 ± 2.6
Ethnicity	
White/Caucasian	6/16 (38%)
Asian	6/16 (38%)
Hispanic	2/16 (13%)
African American	1/16 (6%)
Other	1/6 (6%)
Gender	
Male	9/16 (56%)
Female	7/16 (44%)
Location of fellowship	
Institution 1	10
Institution 2	6
Location of current practice	
USA	14/15 (93%)
Canada	1/15 (7%)
Exposure to cancer rehabilitation	
Prior to residency	3/16 (19%)
Prior to PGY-3	7/16 (44%)
Formal elective/mandatory rotation	10/16 (63%)
Lectures	12/16 (75%)
Personal or family experience with cancer	9/16 (56%)

utilized despite some missing information. Table 1 summarizes the characteristics of the graduates.

During first 5 years (2008–2012), there were five (45%) graduates. In last 3 years, there were 11 (55%) additional graduates. Twelve (75%) had cancer rehabilitation exposure via lectures. Nine (56%) mentioned having a person or family experience with cancer. Seven (44%) of the respondents thought of this subspecialty before becoming a third year resident and the same number did so during their third year of Physical Medicine and Rehabilitation residency.

All participants agreed or strongly agreed with the statement "The training program prepared me for meeting rehabilitation needs of cancer patients." The median rating was 9 out of 10 (with 10 being the best possible) and there were no responses of less than 8.

Eight out of 15 (53%) have clinical practice with > 50% cancer patients. Most are practicing in an academic or rehabilitation center setting and 4/15 (29%) are in a cancer center. Five out of ten (50%) respondents who felt that they are significantly involved with cancer rehabilitation had a position specifically created for them after their interview. Graduates report spending a mean of 58% of their clinical time in the outpatient setting. Eight out of 15 (53%) spend ≥ 10% time performing administrative duties, including establishing and promoting this subspecialty to other health care providers. Eleven out of 15 (73.3%) mentioned that they are the sole cancer rehabilitation physician in their practice and seven out of 15 (47%) have more than half of their practice devoted to such patients. Graduates reported a mean of 58% of their clinical time in the outpatient setting. Nine out of 14 (64%) estimated annual growth rate of ≥ 6% in number of patients being referred for cancer rehabilitation. Twelve out of 15 (80%) are involved in cancer rehabilitation education to a variety of trainees. Forty-two percent of those involved in education also mentioned trainees from non-physiatry disciplines including nurses, physician assistants, fellows, and residents from oncology, breast surgery, palliative care, neurology, internal medicine, and other specialties. Protected time of 10% or more for academic activities including research and/or education was listed by the minority (36%) (Table 2). Development of cancer rehabilitation program was a key issue identified as an unmet need in current training programs (Table 3).

Table 3 Suggested areas of improvement in training

How to develop programs/career development	6
Develop cancer rehabilitation subspecialty	2
Additional exposure to cancer survivors	2
Balance between inpatient and outpatient	2
Rotations with other services	1
Research and administrative training	1
Training on billing and coding	1
Exposure to general cancer patients, not just rehab	1

Discussions

Despite the longer survival of cancer patients, emphasis on survivorship, and quality of life in such patients, there are inadequate training resources for trainees in this field of PM&R. Majority of PM&R residency programs feel that cancer rehabilitation should be an important component of the curriculum but their trainees do not receive adequate exposure to cancer rehabilitation during their training [11]. Currently, there are a total of four cancer rehabilitation training programs across USA and have been in existence for no more than 8 years. All of these programs are 1 year in length. The first of these programs was established in 2007 and the second program was established in 2010. Only these two programs have had graduates from the fellowship programs as of July 2015.

This study conducted a survey of cancer rehabilitation fellowship graduates of two programs. A high level of responses was noted. Most graduates had some exposure to cancer rehabilitation via a formal rotation, elective, or lectures prior to start of their fellowship program. One way to stimulate further interest and growth in this subspecialty is to encourage exposure to cancer rehabilitation during residency. Interest in cancer rehabilitation is highlighted by the fact that 40% of the respondents had positions created for them before their interview and 50% had positions created for them after their interview. The latter group of graduates was not responding to an announcement or advertisement for a vacancy. These findings are encouraging since they suggest that more programs are interested in establishing cancer rehabilitation positions.

Graduates of cancer rehabilitation fellowship programs strongly value their training to meet the rehabilitation needs

Table 2 Current practice

Practice involving at least 50% of care to cancer patients	8/15 (53%)
Nature of practice	
Academic	7/15 (47%)
Non-academic	8/15 (53%)
Mean years in practice following completion of fellowship program	2.47
Current position specifically created after job interviewed	5/10 (50%)
Time spent in administrative capacity (≤ 50%)	100%

of this challenging group of patients, as demonstrated by a median score of 9 out 10. It is likely that completion of such training program allowed them to obtain a cancer rehabilitation position. However, in the absence of a control group, it is difficult to determine if such training led to increased likelihood of obtaining such a position. More research is needed to corroborate this assumption. Majority of the practice for 53% of the graduates was focused on cancer rehabilitation. This finding suggests that their training was instrumental in allowing them to focus their career into cancer rehabilitation.

It would be important in the future to conduct surveys after a longer period of observation since the current median time frame from graduation is only 2.5 years. Further research should focus on the need for cancer rehabilitation physiatrists as demonstrated through positions that are increased, maintained, or eliminated in the future. It is encouraging to observe that in the first 5 years, there were only five graduates and in last 3 years, there have been 11 more graduates. This finding suggests that there has been increasing interest and resources to create more positions for training.

Conclusions

Graduates of cancer rehabilitation fellowship programs strongly value their training to meet the rehabilitation needs of this challenging group of patients. After fellowship training, these graduates were able to obtain positions with cancer rehabilitation component. Majority of the graduates were able to continue their career into jobs that were primarily cancer rehabilitation related. Further work needs to be done to define this subspecialty further, standardize training programs, incorporate promotion, building practice as part of this training, and study the real impact of training on patient survivorship, quality of life, and functional gains.

Compliance with Ethical Standards

The study was approved by Institutional Review Board.

Conflict of Interest Abstract of this study was accepted for presentation at annual 2017 AAPM&R assembly (10/12/2017–10/15/2017).

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