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Survey of Experiences of an E-Mentorship Program: Part II

Beth Faiman, MSN, APRN-BC, AOCN®, Teresa S. Miceli, RN, BSN, OCN®, Tiffany Richards, MS, ANP-BC, and Joseph D. Tariman, PhD, APRN-BC

Abstract

Nurse educators (NEs) are responsible for providing continuing education to nurses, who are expected to remain knowledgeable in the diagnosis and management strategies of a range of cancers. Remaining abreast of up-to-date information can be a challenge. Part I of the e-mentorship program was developed in 2009 to provide NEs with the latest updates and educational materials to enhance multiple myeloma (MM) nursing knowledge. The second phase was completed in January 2011. Faculty developed four modules: overview of MM, peripheral neuropathy, bone health, and overview of transplantation. Seventeen MM nurses were identified to participate as mentors and partner with 34 mentees. Mentees were trained through monographs, journal articles, webcasts, and telephone communication, and then they presented the modules to their nurses. All mentees were asked to participate in voluntary pre- and post-test assessments to measure improved knowledge and clinical competence in the management of patients with MM. A significant improvement in post-test scores, as compared to pretest scores, was seen; therefore, nurses who participated in the e-mentorship program demonstrated improved knowledge. In the future, this type of educational program should be expanded to other cancer types.

Nurse educators (NEs) are responsible for providing continuing education (CE) to nursing staff as a part of their regular job function. In addition to providing education in a specialty area, they also may provide patient care. Within a defined specialty practice area, nurses provide care to patients with a variety of diagnoses and yet are required to remain up-to-date on testing, treatment, and side-effect management (de Raad et al., 2010). Patient education is an important component of care and can lead to improved patient outcomes (Koelling, Johnson, Cody, & Aaronson, 2005; Oliver, Kravitz, Kaplan, & Meyers, 2001). Although nurses are responsible for providing such education, they may not have adequate time and resources to remain current on the latest management strategies (Kav et al., 2008).

The first Multiple Myeloma Mentorship Program (MMMP) was developed in 2009 as a two-fold effort to (a) construct a bridge between self-directed learning, didactic training, and clinical practice; and (b) gain valuable insights into the educational needs of NEs and nurses in the community who care for patients with multiple myeloma (MM). Based on feedback and experiences from NEs who participated in the inaugural program, the second phase of the MMMP was developed and completed in January 2011. An update of participation, perceptions among nurses, and knowledge gained as a result of the program will be reported.

Beth Faiman, MSN, APRN-BC, AOCN®, is a nurse practitioner in hematology and medical oncology at the Cleveland Clinic Taussig Cancer Institute in Ohio; Teresa S. Miceli, RN, BSN, OCN®, is a bone marrow transplantation RN coordinator in the Nursing-Transplant Center at the Mayo Clinic in Rochester, MN; Tiffany Richards, MS, ANP-BC, is a lymphoma/myeloma nurse practitioner at MD Anderson Cancer Center in Houston, TX; and Joseph D. Tariman, PhD, APRN-BC, is an advanced practice nurse in hematology-oncology at Northwestern University Medical Faculty Foundation in Chicago, IL. The authors take full responsibility for the content of the article. The authors did not receive honoraria for this work. The content of this article has been reviewed by independent peer reviewers to ensure that it is balanced, objective, and free from commercial bias. No financial relationships relevant to the content of this article have been disclosed by the authors, planners, independent peer reviewers, or editorial staff. Faiman can be reached at faimanb@ccf.org, with copy to editor at CJONEditor@ons.org.

Purpose of the Survey

The mentorship program was sponsored by an unrestricted educational grant from Millennium: The Takeda Oncology Company. The funding allowed the Institute for Medical Education and Research the resources to oversee the e-mentorship program, which were integral to the structure, format, and coordination of the 2010 MMMP activities. The MMMP was comprised of mentors and mentees. An MM mentor is conceptually defined as a clinical expert who coaches, teaches, guides, and empowers mentees to achieve educational milestones to provide optimal management of patients with MM. An MM mentee is defined as an oncology nurse who participates in a collaborative education process with a mentor to achieve ones' goal of improved knowledge in the care of patients with MM. The main purpose of the survey was to determine baseline knowledge and improved understanding of MM diagnosis and management strategies in nurses as a result of the educational activity.

Methods

The data were collected using a descriptive survey design. Participants answered survey questions independently prior to and following completion of the MMMP. Pre- and post-tests to evaluate knowledge and clinical competence in the management of patients with MM were conducted in a written survey format.

Procedure

Seventeen expert nurses in the care and management of patients with MM were identified and recruited or chosen to participate as mentors for the 2010 MMMP from sixteen cancer centers. The mentors were partnered with 34 nurse educators ("mentees") from cancer centers throughout the United States. The partnership was created through two means: mentor-selected mentees and mentee assignment. The second MMMP program ran from July 2010 to January 2011. The primary goal was to provide education and resources to NEs to enable them to extend learning opportunities to oncology nurses within their institution. That allowed all participants to gain knowledge and promote competence by applying new skills in clinical practice. To facilitate that goal, mentees were partnered with a specialized MM mentor, a clinical expert who provided support and guidance. A structured series of teleconference calls, face-to-face meetings, and live lectures were held in four domains: overview of MM, bone health, peripheral neuropathy, and the role of bone marrow transplantation.

In preparation for the 2010 MMMP, MM experts developed four educational modules: Peripheral Neuropathy (Beth Faiman, MSN, APRN-BC, AOCN®), Bone Health (Teresa S. Miceli, RN, BSN, OCN®), Overview of MM (Tiffany Richards, MS, ANP-BC), and Overview of Transplant (Joseph D. Tariman, PhD, APRN-BC). Mentees were trained on the content of each module through a topic-specific monograph; journal references; and a live, interactive webcast, which was archived for future reference. The interactive webcast allowed participants to ask questions of the faculty member who created the module. That was followed by two conference calls between the faculty, mentors, and mentees to discuss objectives, goals, and frequently asked questions.

The live presentations occurred from October 2010 to December 2010. The mentees were allowed a three-month time frame to deliver two to four educational modules to the nurses at their institutions as live and accredited CE activities. Modules selected were based on preassessment surveys that identified the greatest education needs within each institution. The primary goal of this activity was to increase the mentees' knowledge of MM through Web-based training, telecommunication and interaction with mentors, and mentee delivery

of the content to other nurses. A secondary goal of this process was for mentees to continue educating nurses in their respective institutions once the program was completed. The time schedule for the mentorship program can be found in Table 1. Investigational review board approval was not necessary for this performance improvement project (Cosco, Knopp, & Milke, 2007).

Results

First Program

The first MMMP took place from July 2009 to January 2010 (Faiman, 2011). In that program, 25 expert nurses (“mentors”) from 23 cancer centers in the United States partnered with 50 NEs and nurses (“mentees”). Nurse mentees connected with their mentors via telephone to discuss personal learning needs and determine the best format to complete each CE activity. Topics included overview of MM, peripheral neuropathy, venous thromboembolism, and medication adherence. Expert nurses in each field created the CE activities and the content was delivered by live oral presentation, webcast, or monograph. Nurse mentees were able to determine preferred topics and mode of learning. Mentees were required to complete the CE activity within the program.

Mentors communicated with each mentee via a scheduled teleconference at the beginning, middle, and end of the program. Feedback was captured via survey format with each teleconference. Most mentees reported being satisfied with the 2009 program, which led to an increase in learning and ability to obtain free CE; however, pre- and post-tests of knowledge gained were not measured. Participants identified a preference for live learning activities over webcast and monograph formats, as live learning provided the opportunity to ask questions of the presenter. In addition, many mentees reported difficulty completing required modules during the holiday season (December and January). When mentee responses were reviewed, common themes emerged (see Table 2). A majority of participants desired more interaction between the mentor and mentee. A 2010 MMMP was developed and modified based on the affirmative feedback from the 2009 MMMP. Modifications included inclusion of additional one-on-one mentor-mentee activities and additional live programs for enhanced learning and real-time question-and-answer sessions. Module topics differed slightly from the 2009 MMMP, based on (a) requests for this type of education to be updated from previous mentees, and (b) emerging information within the field of MM research.

Second Program

Through the MMMP, a combined total of 133 live programs were given by all mentees to 1,646 nurses in their respective institutions. At each live presentation, mentees were evaluated by their peers on various topics, such as the effectiveness of delivery, avoidance of commercial bias, increased knowledge, and improvements in quality health care. Mentees were rated high in each area and had an aggregate average of 4.7 out of 5, with higher scores indicating better performance (see Figure 1). Staff nurse participants were asked which strategies or changes they planned to implement into their practice after completing each activity. Out of 33 mentees that completed modules, 15 completed all 4 modules, 4 completed 3 modules, 13 completed 2 modules, and 1 mentee completed 1 module. The modules were attended by nursing staff. More than 50% of participants reported enhanced patient communication, assessment, and patient education, as well as improved side-effect management (see Figure 2). Specifically, 51% of nurses stated the four modules improved communication with their patient, 63% felt the modules enhanced patient assessment, 53% would provide more comprehensive patient education, and 52% believed the modules would improve side-effect management.

In addition, pre- and post-tests to evaluate knowledge and clinical competence in the management of MM patients were conducted in survey format. All mentees were asked to participate in a baseline knowledge assessment and post-test assessment that were designed to measure enhancements in knowledge and clinical competence in the management of patients with MM. Baseline nursing knowledge of MM was measured through implementing a pre-test of mentees, as well as their nurse attendees. A list of 20 multiple choice questions was compiled by the mentorship faculty. The same questions were administered to mentees following completion of the program. Mentees were asked in good faith to answer the questions without looking up the answers at any point.

A matched pairs t test was performed to determine whether the mentees' knowledge gain was significant compared to the scores from tests administered before the mentorship program. Twenty-one mentees were tested. The t statistic was significant at the critical alpha level (0.05), $t(20) = 4.92$, $p = 0.00008$. Therefore, the knowledge gain by the mentees was significant as a result of the program. The baseline aggregate results for pretest knowledge of MM among nurse respondents was 57%. Following completion of the program, mentees scored 77% on the post-test. The results demonstrate a significant improvement of knowledge related to MM on completion of the mentorship curriculum.

Discussion

The 2010 MMMP was directed toward NEs interested in gaining knowledge about MM and providing staff education. The program successfully enhanced mentee baseline knowledge of MM and provided CE to a large number of nurses within a variety of practice settings. Feedback provided by participants of the 2009 MMMP helped to restructure and provide a new format for the 2010 MMMP. Mentees enjoyed the ability to present expert-developed content to their peers, and live content was well received. Mentees indicated they anticipated continuing this process in the future.

Despite many improvements and an enhanced structure in the 2010 program as compared to the 2009 MMMP, several comments will guide change for future programs. The 2010 program was structured to provide more scheduled interactions between the mentors and mentees. Despite that change, many mentees indicated that they would like to have more telecommunication with their mentor from October to December. Many voiced that it would be helpful to have their mentor on site or available by teleconference during their live presentation or through a scheduled teleconference call just prior to each live presentation to answer last-minute questions. In addition, many mentees requested speakers' notes for the slide presentations (which were not mandatory during the slide development process) and that the information be less technical. Consideration of those comments will be used in the development of future programs.

Conclusion

Overall, nurses who participated in the MMMP reported increased knowledge in caring for patients with MM. In addition, nurses reported enhanced patient assessment and communication as valuable skills learned through the program. Participants benefited from the program structure and resource binder, which included reference articles and module monographs. Constructive feedback will be used in the development of future programs. The 2010 MMMP was a great success and could serve as a model for continuing nursing education programs in the future.

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Implications for Practice

- Nurse educators who participated in the e-mentorship program demonstrated enhanced knowledge of multiple myeloma when pretest and post-test scores were compared.
- More than 50% of nurses reported enhanced patient communication, assessment, and patient education, as well as improved side-effect management, as a result of the program.
- Additional disease-specific learning opportunities may produce similar results.

Module 1: Multiple Myeloma		Score
▶ The content presented enhanced my current knowledge base.		4.79
▶ Promoted improvements in quality health care		4.64
Module II: Peripheral Neuropathy		
▶ The content presented enhanced my current knowledge base.		4.74
▶ Promoted improvements in quality health care		4.7
Module III: Bone Health		
▶ The content presented enhanced my current knowledge base.		4.7
▶ Promoted improvements in quality health care		4.64
Module IV: Transplantation		
▶ The content presented enhanced my current knowledge base.		4.66
▶ Promoted improvements in quality health care		4.57
Total Aggregate Average		4.7
<i>Note.</i> Scores were given on a scale from 1–5, with higher scores indicating better performance.		

FIGURE 1.
2010 Multiple Myeloma Mentorship Program Evaluation Results

FIGURE 2.
Planned Practice Changes Among Staff Nurses

TABLE 1

Content of the 2010 MMMP

Date	Content
July 2010: Mentorship Program	Mentorship program overview Review of preprogram assessment, 2010 MMMP, timeline, and target due dates Self-study resource binder outlining all four MM topics was mailed to mentors and mentees.
August 2010: Assessment	Mentors completed an accredited one-hour telephone call with mentees to review the results of assessments submitted by mentees and their oncology nursing staff. Mentors had face-to-face visits at mentees' institutions and presented a 30-minute accredited review of the assessment to the institution and oncology nursing staff.
September 2010: FAQ Teleconference 1	Prior to FAQ teleconference, mentees engaged in peer-to-peer discussions on successes and challenges in their practices related to management of patients with MM and identified ongoing educational needs. Moderated by MMMP faculty and included discussion on diagnosis and disease management of MM peripheral neuropathy
October 2010: FAQ Teleconference 2	Moderated by MMMP faculty Discussed bone health and skeletal issues and management of transplantation-eligible or -ineligible patients with MM.
October 2010: Slide Reviews	Mentees participated in four slide reviews moderated by each module chair to prepare for each presentation that the mentee would be delivering. Slide reviews were archived so they would be available for mentees to reference.
October–December 2010: Live Presentations	Mentees were given three months to present four modules as an advanced clinical expert at their institution.
December 2010: Mentorship Program Closure	One-on-one call with mentor to review experiences with the presentation evaluations, challenges, and successes

FAQ—frequently asked questions; MM—multiple myeloma; MMMP—Multiple Myeloma Mentorship Program

TABLE 2**Common Themes and Comments From Mentees in the 2009 Mentorship Program**

Theme	Comments
Preference of learning format	At the beginning of the program, many nurses enjoyed the ability to select learning format (e.g., live, Web-based, monograph). At the end, most preferred live learning.
Technological challenges with accessing Web-based programs	Being unfamiliar with the Internet and computers made accessing Web sites a challenge. Technical difficulties created a learning barrier to some mentees.
Time challenges to complete Web or live programs	During holiday months and busy days when staffing was low, the mentees often would "skip" the programs because they were "too busy."
Implementation of practices	Mentees felt they would be able to implement the practices learned through the modules when educating patients.
Content delivered	Nurses were satisfied with the content delivered.
Communication between each mentor and mentee	Many mentees desired more communication between the mentor and mentee throughout the process.
Cost effectiveness of this learning format	Mentees enjoyed the benefits of free continuing nursing education to maintain licensure and oncology certification.