



## **A Hybrid Learning Approach to Patient Education for Blood and Marrow Transplantation**

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**Introduction:** Increasing demands for bedside nursing staff to deliver higher acuity patient care constrain the time available to deliver consistent and comprehensive quality patient education. Additionally, budget constraints, increased computer literacy and the rapid growth of the internet are requiring clinicians and educators to evaluate the available resources and methodologies for delivering patient education. Utilizing a hybrid approach to deliver education to patients and caregivers prior to blood and marrow transplant (BMT), this pilot study set out to determine 1) Does a technology-supported approach to education allow us to connect with each transplant patient and the caregiver prior to transplant?; 2) Are participants satisfied with a technology-supported approach to pre-BMT education?; and 3) Does a technology-supported approach to BMT education increase knowledge prior to BMT?

**Methods:** A web based patient education site was designed and developed for patients undergoing BMT and their caregivers on an adult hematology/oncology/BMT unit in a clinical research hospital. The site was developed within a virtual community with video presentation of the instructional content, pre- and post-tests, and web links to internal and external resources for informational purposes. Participants were invited to access the online training versus the existing face to face training. They were given written and verbal instructions either in person or over the phone and e-mail to log onto the website, complete the pre-training knowledge assessment, watch the instructional video, and complete the post-test and satisfaction survey. A BMT nurse followed up with each participant to see if they had any questions regarding the course content. The findings were analyzed using comparative analysis, descriptive statistics and a t-test to determine knowledge gain.

**Results:** Out of a total of 68 patients eligible for transplant during this time period, N=14 patients and their caregivers N=7 completed this pilot. The participants ranged in age from 18-59, had some college education or above (57%) and had experience with computers or online education (100%). Half of the participants accessed the educational site from home and half from an alternative site. Of the caregiver group, over 70% accessed the site from outside of the hospital, demonstrating increased access to the information. Satisfaction scores ranged from 3.5-4.6 on a scale of 1-7 showing moderate satisfaction with the lowest scores around navigation (3.0-3.7). The knowledge scores increased for the patients from 87-91% and from 92-96% for the caregivers showing some knowledge gain. It was also noted that several of the patients had difficulty with entry into the site and retention of their passwords.

**Conclusion:** Our findings suggest computer technology is a viable option for the delivery of patient education in this population. Our pilot demonstrated that patients and their caregivers did access the education from remote locations and were able to demonstrate a slight increase in knowledge of the pre-transplant content. The satisfaction scores, however, suggest that there are opportunities to improve the navigation within the site and thus improve the overall educational experience for the patients and their caregivers.

