

deviations and Cronbach's alpha will be used to evaluate the reliability and sensitivity of the SMM.

**Implications:** This is a beginning program of research on visual art and healing environments. The intervention is patient centered and congruent with core nursing values of promoting health, healing, and hope. If better understood, patient preferences could enhance environments, thereby improving health outcomes.

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### PREDICTIVE EFFECTS OF MALNUTRITION INDICATORS FOR MORBIDITY AND MORTALITY AMONG BLOOD AND MARROW TRANSPLANTATION RECIPIENTS: A RETROSPECTIVE CHART REVIEW

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The purpose of this study was to identify complications related to the blood and marrow transplantation (BMT) process, the presence of malnutrition among patients who received myeloablative allogeneic BMT, and the predictive effects of malnutrition indicators to the outcomes of BMT. Four research questions related to malnutrition were investigated: (a) malnutrition indicators and outcomes of BMT; (b) body mass index (BMI) and incidences of transplant related mortality; (c) degree of mucositis and its relationship to transplant related infections; and (d) predictive ability of BMI and serum albumin levels and infection incidences during 100 days post BMT.

The conceptual framework chosen for this study is based on the pathways of cancer aggression (1977) which demonstrate how cancer interferes with multiple organs and function leading to host depletion, morbidity, and mortality. This study is a retrospective chart review from 110 electronic medical records of patients diagnosed with Acute Myeloid Leukemia (AML) or Myelodysplastic Syndrome (MDS), who received the same regimen of myeloablative, allogeneic BMT from one cancer institution during August 2005 to June 2008.

Findings revealed that there were subjects who experienced weight loss (68%) and had hypoalbuminemia (97.3%), indicating malnutrition among 110 post-allogeneic BMT recipients during the 100 days post-BMT. Weight loss was not related to transplant mortality but it significantly contributed to an increase in transplant related infections. Hypoalbuminemia was significantly related to both transplant related mortality and infection especially when serum albumin dropped below 3 gm/dL. The body mass index was not related to transplant related mortality during 100 days post BMT. Although the majority of subjects (71.8%) experienced mucositis to the point that it interfered their eating and swallowing solid food, severity in mucositis did not contribute to transplant related infection. Both BMI and hypoalbuminemia were significant predictors to transplant related infection during 100 days post BMT.

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### ASSESSING QUALITY OF LIFE (QOL), SPIRITUAL WELL-BEING, AND USE OF RESOURCES THROUGHOUT THE HEMATOPOIETIC STEM CELL TRANSPLANT (HSCT) PROCESS

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Hematopoietic Stem Cell Transplant (HSCT) recipients continue to report quality of life (QOL) issues post transplant. A descriptive study using a longitudinal design was completed at one institution. The primary goal of the study was to describe QOL, spiritual well-being, and use of resources pre-transplant, one month, three months, and six months after transplant in HSCT recipients.

A conceptual model developed by Ferrell et al (1992a) described how HSCT impacts four domains of QOL: physical, psychological, social, and spiritual well-being. This study utilized three tools to as-

sess QOL (FACT-BMT (Version 4)), spiritual well-being (FACIT-SP-12) and the use of resources (a resource questionnaire developed by the researchers). The resource questionnaire was tested for clarity, readability, and content validity.

An IRB approved informed consent was obtained. Patients were asked to complete baseline questionnaires and a demographic form pre-transplant. Follow-up packets were mailed or provided in the outpatient clinic at 1 month, 3 months, and 6 months. An addressed stamped envelope was provided. In order to maintain confidentiality, the PI assigned each participant a unique alphanumeric code that appeared at the top of each page of each form.

Complete data was obtained on 67 of 161 consented participants and incomplete data was obtained on 94 of the 161. Of the 67 who completed all the forms, 59% were male; 94% were Caucasian; 68.6% were married; all had at least a high school education and 41.7% attended school more than 12 years.

Overall QOL decreased ( $p = 0.01$ ) between baseline score (mean 103.7) and day +30 (mean 97.2), day +90 (mean 105.0) slightly exceeded baseline ( $p = 0.65$ ) and by day +180 (mean 110.2) significantly exceeded baseline scores ( $p < 0.001$ ). Spiritual well being mean baseline score (37.4) to day +180 (37.0) did not change ( $p = 0.72$  to  $p = 0.98$ ). Overall use of resources increased ( $p = 0.02$ ) between baseline score (14.3) and day +30 (15.8), day +90 (14.3) and decreased below baseline by day +180 (13.1) ( $p < 0.001$ ). Although QOL and resource utilization increased with HSCT, scores returned to baseline within 6 months post transplant.

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### THE QUALITY OF THE ADULT CAREGIVER-RECIPIENT RELATIONSHIP MAY BUFFER CAREGIVER BURDEN DURING ALLOGENEIC TRANSPLANTATION

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Caregivers are critical partners in allogeneic transplantation (HSCT) recipients' treatment and recovery. Although many transplant caregivers report significant emotional distress, factors that might serve to buffer the impact of this experience on their lives are not well understood. The purpose of this analysis is to examine the quality of the HSCT caregiver-recipient relationship and its association to caregiver perceived burden.

**Methods:** Cross-sectional data were drawn from HSCT recipients and caregivers preparing for HSCT from a longitudinal study. Measures include the Family Caregiving Inventory (FCI) Mutuality Scale, Caregiver Reaction Assessment (CRA), Distress Thermometer (DT), and self-reported demographic data.

**Results:** Adult ( $M = 52.1 \pm 13.3$  years) caregivers ( $N = 111$ ) were predominantly female (73.0%), and spouse to the HSCT recipient (45.9%). Fifty-three (47.7%) were sole caregivers while 58 (52.2%) were members of a caregiver 'team'. Adult ( $M = 46.4 \pm 14.4$  years) HSCT recipients were predominately male (62.3%), preparing for a reduced intensity HSCT (84.4%). Caregiver mutuality was significantly related ( $p < 0.05$ ) to all aspects of caregiver burden except finances ( $p = 0.113$ ). Caregivers with higher mutuality reported less impact on self-esteem, health, schedule and sense of abandonment by family. Higher recipient mutuality was also related to less impact on caregiver self-esteem ( $p < 0.05$ ). Greater agreement on perceived mutuality was related to less impact on caregiver self-esteem ( $p < 0.001$ ) and finances ( $p < 0.05$ ). Caregivers with less burden reported lower levels of self-reported distress ( $p < 0.05$ ).

**Conclusion:** Results suggest that caregivers who perceive good relationship quality with HSCT recipients experience less burden. Assessments and interventions directed at understanding relationship concerns might improve outcomes for caregivers including minimizing distress.