Introduction: Studies suggest that among cancer patients undergoing hematopoietic stem cell transplantation (HSCT), low socioeconomic status (SES) is associated with worse outcomes and higher mortality. Assessment of SES in these studies has generally been limited to a single dimension such as household income. We examined outcome after HSCT as a function of financial resources at the household and community level, and explored whether their association with survival reflected educational disparities.

Method: 383 patients underwent allogeneic HSCT (57% male; 82% White; mean age 50 y; 66% leukemia, 21% lymphoma). Pre-transplant, a social worker documented patients' financial resources and educational background. Via census data, we derived median household income and high-school graduation rates at the census-block level. HSCT outcomes over six years were obtained from medical records.

Results: Controlling for demographics (age, gender, race, marital status) and medical factors (disease, pre-transplant chemotherapy, remission status, cell dose, donor-recipient CMV status, donor sex), greater pre-transplant financial resources were associated with longer survival (HR 1.55; p=0.007), as was higher median neighborhood income (HR 1.52; p=0.02). When entered simultaneously, higher financial resources (HR 1.45; p=0.03) and neighborhood income (HR 1.54, p=0.06) continued to predict longer survival. Adding educational attainment did not change the magnitude of these associations (financial resources HR 1.60; neighborhood income HR 1.90). Also, greater pre-transplant financial resources were associated with lower non-relapse mortality (NRM) than lower resources (HR 0.45; p=0.03).

Conclusions: Greater financial resources are associated with lower non-relapse mortality and higher 2-year overall survival post-HSCT. This association is independent of educational attainment, suggesting that it reflects the influence of resources as opposed to knowledge or health literacy.

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Post-HSCT Fertility in Patients Receiving Non-TBI-Based Conditioning Regimen: A 23-Year of Iranian Experience

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Infertility is one of the late effects in patients receiving hematopoietic stem cell transplantation (HSCT). The aim of this study was to assess fertility in survivors following HSCT.

The study included 2698 HSCT survivors (aged>18) who underwent transplantation between July 3, 1990 and August 30, 2014. The inclusion criterion for women entered the study was the age of less than 50 years at the time of transplantation. HSCT recipients (females and males) aged over18 were determined eligible to participate in the study. The study group consisted of 1714(63.5%) males and 984(36.5%) females with mean age of 31.5 years (range: 2-78) at the time of HSCT. Median follow-up was 44 months (1-286).

In this study, pregnancies occurred in female HSCT recipients and in female partners of male recipients. There were 86 pregnancies (19 females and 67 males) following spontaneous conception (n=54) and in vitro fertilization (ivF) treatment with either their *own eggs or donated eggs.* The median age of pregnancy in our participants was 31 years. *Autologous* (n=34), allogeneic (n=50), and syngeneic (n=2) hematopoietic stem cells were primarily used in this study. AML (30%) and HD (16.3%) were common diseases among pregnant

women. The interval time between HST and fertility was 63 months.

Conclusion: The results of the survey showed that some recipients are able to preserve their fertility following HSCT. In order to increase the rate of pregnancies in HSCT survivors, they should be informed about the impact of late effects of HSCT on their fertility prior to treatment entry.

Keywords: Bone Marrow Transplantation, Fertility, Late Effects.

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A Single Center Survey of Distress Amongst Bone Marrow Transplant Recipients

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Introduction: Patients diagnosed with cancer may experience psychological issues that can interfere with treatment plans and adversely affect outcomes. Patients should be screened for distress during pivotal medical visits. The St. Louis University Blood and Marrow Transplant Program (SLUBMT) began implementing the State Trait Anxiety Inventory (STAI) with patients during medical visits to evaluate feelings of anxiety. Under normal conditions, average STAI scores are: 35.72 (state)/34.89 (trait) for working, male adults and 35.20 (state)/34.79 (trait) for working, female adults. After implementing the STAI, it was realized that these screenings could be analyzed in groups to determine if patterns emerged regarding patients' anxiety throughout the bone marrow transplantation (BMT) process. The STAI has been utilized in studies to determine the effectiveness of interventions to decrease anxiety; however the study team is unable to find longitudinal studies which examine how STAI scores are naturally affected over the course of the BMT process.

Method: Institutional Review Board approval was received to perform a retrospective examination of STAIs completed by patients throughout the BMT process at the SLUBMT from 03/11/14 through 06/24/14. 30 inventories were collected, de-identified, and categorized by the following medical visits: arrival visit (first visit to the clinic), data review visit (visit to review transplant related testing and sign consents), start of preparative regimen visit, day 0 visit, day +30 bone marrow biopsy visit for allogenic transplantation, day +30 bone marrow biopsy result visit for allogenic transplantation, and day +100 visit for auto transplantation. Averages for each category were determined by finding the mean score. Scores were then compared to determine which medical visit(s) caused patients to experience an increase in anxiety.

Results: Average scores were 46 (state)/38 (trait) during the arrival visits, 41 (state)/45 (trait) during the data review visits, and 44 (state)/39 (trait) during the start of preparative regimen visits. During day 0 visits, patients' scores decreased to an average of 36 (state)/35 (trait). Day +30 and day +100 visits demonstrated even further decreases in anxiety scores.

Conclusion: Patients experience the highest levels of anxiety during early medical visits of the BMT process. The sample size was small and could possibly skew results. However, this study does provide a starting basis for future study in BMT recipient distress, and multi-site studies are being planned to ensure the accuracy of the patterns, which emerged from this study. If patterns could be accurately predicted, the study team may also be able to develop future studies to preemptively lower patients' anxiety levels early in the BMT process and thus improve outcomes.