## Capsule Commentary on Zheng et al., The Role of Spirituality in Patients Undergoing Hematopoietic Stem Cell Transplantation: A Systematic Mixed Studies Review



Guru Subramanian Guru Murthy, James Jerkins, and Jennifer Knight

Division of Hematology/Oncology, Medical College of Wisconsin, Milwaukee, WI, USA.

J Gen Intern Med 35(7):2253 DOI: 10.1007/s11606-020-05901-3 © Society of General Internal Medicine 2020

heng et al. have conducted a systematic mixed review of published literature to explore the role of spirituality in patients undergoing hematopoietic cell transplantation (HCT). Patients with different malignant and non-malignant conditions undergo HCT, often with a curative intent. HCT is an intensive procedure requiring close monitoring and appropriate management of complications. While prior research has focused on identifying the role of traditional medical factors such as age, disease type, risk status, and genetic/molecular abnormalities as determinants of outcomes, less is known about the role of other sociobiological or non-biological factors affecting HCT outcomes. Patient-reported quality of life (QOL) is increasingly recognized as an important domain influencing cancer recovery, including HCT recipients.<sup>2</sup> In this context, patients' spiritual beliefs and their management during HCT setting could potentially influence the patient's well-being and QOL. Spirituality likely has biological implications that could impact HCT outcomes.<sup>3</sup> Interestingly, recent data has begun to identify complex genomic mechanisms that could explain similar socioenvironmental influences of QOL on HCT outcomes.<sup>4, 5</sup> In the current study, Zheng et al. have included 35 studies describing the perceptions and spiritual needs of patients during HCT. They noted that patients' spiritual dependence increased during HCT irrespective of underlying religious beliefs. In addition, the spiritual needs varied significantly and were affected by several factors including education, ethnicity, and culture. While most patients seem to have increased spiritual dependence during HCT, the data is too heterogeneous to support definitive conclusions. More definitive clinical trials in the peri-HCT setting are

needed to consistently investigate this aspect of patient need and QOL as well as investigate methods for addressing these needs. However, the current review is an important step in advancing the exploration of spiritual needs of the patients during HCT and hopefully integrating this with patient-reported outcomes. Future research efforts should focus not only on the effect of spirituality on HCT outcomes but also on the biologic and genomic mechanisms potentially mediating such a relationship.

**Corresponding Author:** Guru Subramanian Guru Murthy, Division of Hematology/Oncology, Medical College of Wisconsin, Milwaukee, WI, USA (e-mail: gmurthy@mcw.edu).

## Compliance with Ethical Standards:

**Conflict of Interest:** The authors declare that they do not have a conflict of interest.

## **REFERENCES**

- Zheng LY, Guan BX, Zhang P, Zhang XY. The role of spirituality in patients undergoing hematopoietic stem cell transplantation: a systematic mixed studies review. J Gen Intern Med. https://doi.org/10.1007/ s11606-020-05741-1.
- Hoodin, F., et al. Do negative or positive emotions differentially impact mortality after adult stem cell transplant? Bone Marrow Transplant, 2006. 38(4):255–64.
- Costanzo, E.S., M.B. Juckett, and Coe C.L., Biobehavioral influences on recovery following hematopoietic stem cell transplantation. Brain Behav Immun 2013. 30 Suppl(Suppl):S68–74
- Knight, J.M., et al., Low socioeconomic status, adverse gene expression profiles, and clinical outcomes in hematopoietic stem cell transplant recipients. Clin Cancer Res 2016. 22(1):69–78.
- Knight, J.M., et al., Molecular correlates of socioeconomic status and clinical outcomes following hematopoietic cell transplantation for leukemia. JNCI Cancer Spectr, 2019. 3(4): pkz073

**Publisher's Note:** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Published online May 27, 2020