

complications rather than the institution in which surgery was performed. This may have led to under-reporting of complications at follow-up.

Patients with neurogenic bladder undergoing complex GU reconstruction require both clinical and social support for long-term success. The decision regarding the surgical intervention should be made in the context of the patient and their sociodemographic factors, including their ability to understand self-care and recognize signs and symptoms of complications that may arise. The process of transitioning care from the inpatient setting to home is a critical period in which hospital readmissions are common and may be prevented.⁵ Key processes to improve the discharge process include medical reconciliation and coordinating with community-based providers to ensure that patients are equipped with the resources to manage their condition and postoperative care.⁵ Overall, this study emphasizes the many nonclinical barriers experienced by the population of patients with neurogenic bladder undergoing benign GU reconstruction and highlights the importance of establishing support systems perioperatively.

CONCLUSION

Patients with neurourologic disorders requiring complex GU reconstruction are especially vulnerable with a low education level and health literacy. This complex population also travels significant distances to obtain surgical treatment. When concerns arise postoperatively, resources must exist, such that the appropriate care may be accessed in a timely fashion. While health literacy, marital status, education, and distance from hospital are nonmodifiable, with adequate perioperative systems in place, these barriers can be overcome.

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SUPPLEMENTARY MATERIALS

Supplementary material associated with this article can be found, in the online version, at <http://dx.doi.org/10.1016/j.urology.2018.08.047>.

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EDITORIAL COMMENT



This manuscript sought to investigate the role of health literacy and a variety of sociodemographic factors and readmission and complication rates after complex GU surgery in a small but high-risk population of patients with neurogenic bladder. Nearly half of the patients were spinal cord injured (SCI), one-fourth had spina bifida (SB), and the remainder either had a degenerative neuromuscular disease or were unspecified. While all of these diseases can result in a similar bladder phenotype, and therefore similar surgical treatments, the populations are vastly different. Onset of disease (congenital or acquired) and acuity of onset (chronic degenerative vs traumatic) dramatically impact patients' expectations surrounding quality of life and acceptance of their disabilities. Moreover, these factors may also substantially influence the number and type of health care assistants surrounding the patient, which in congenital conditions can more often be a parent or adult sibling than a spouse. I cannot help but wonder if further specification of disease type and "primary caregiver" type (spouse, sibling, parent, friend, and none), as well as health literacy measures of those caregivers, would provide further insight.

One study measured health literacy among children with SB. Nearly one-fourth of the parents in the study demonstrated poor or marginal health literacy, not surprising given that demographics impacting health literacy (type of insurance, income, and education) are often shared familially.¹ Importantly, Cooper et al similarly did not demonstrate a relationship between ED/hospital utilization and health literacy. Health literacy among adults with SB is poorly characterized, and measurement may be challenged by the well-described deficit in executive function that many patients with congenital hydrocephalus demonstrate. Executive function is difficult to measure and often not considered an intellectual disability. Even if a patient has adequate health literacy, diminished executive function may impair that

individual's ability to navigate the complexities of health care systems.

Comparatively, Johnston et al measured health literacy among patients with SCI and noted 14% as having marginal or inadequate health literacy.² Unlike SB, executive function deficit is not characteristically seen in patients with SCI. In fact, many patients with SCI demonstrate high levels of utilization of technologies for access to health information^{3,4} and active self-education through group SCI forums and programs.

In short, this paper is important because it points out that very few of the interventions we employ to impact surgical outcomes extend beyond the hospital. Most of a patient's recovery occurs after discharge, and that is when the greatest opportunity for failure also occurs. Especially for patients with multisystem diseases and disabilities that rely on others for care, we need to continue to think about how we can measure factors that may predict success after discharge and develop programs that can mitigate risk for readmissions and complications. Understanding and addressing the entire web of resources (family members, other care providers, technologies, and local medical providers) and potential liabilities (executive function, health literacy gaps, transportation, financial constraints, and geographic distance) will serve our patients and our limited collective health resources most efficiently.

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AUTHOR REPLY

We agree with the commentator that caregiver and social support needs may vary depending on the etiology of the patient's condition. In fact, both health literacy and social support have demonstrated associations with a patient's ability to self-manage, which is a necessary and often overlooked consideration while formulating postoperative care plans. One study by Chen et al investigated self-management in chronic kidney disease patients, finding that social support conferred an even more important role than the health literacy of the individual.¹

As an example of this effort to increase social support, 1 pilot program targeted at postoperative ileostomy patients demonstrated a 58% decrease in 30-day readmission rates. By utilizing home health agencies and multidisciplinary clinical care teams, a high frequency of home visits allowed for prompt identification of complications.²

While health literacy may be difficult to modify, social support networks and medical liaisons may serve to compensate for low health literacy if utilized correctly. We agree that future efforts should focus on programs to assist this patient population in navigating the health care system.

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