A Brief Review of Inpatient Palliative Rehabilitation

Bhavesh Patel,[1] Vishwa Raj,[2] Charles Mitchell,[3] Farooq Azam Rathore[4]

Abstract

Cancer patients face many challenges that can have a significant impact on their quality of life (QOL). When patients experience multiple functional impairments due to disease or treatment, their QOL and the efficient use of healthcare resources can be compromised. This is particularly true for patients who are nearing the end of their lives, as the physical and emotional burden of cancer can have a profound effect on both the individual and their caregivers. One approach to improving QOL in these patients is through palliative rehabilitation. Despite being an underutilized and understudied resource, palliative rehabilitation has shown promise in helping patients with advanced cancer retain their dignity and sense of control. By maximizing functional independence and reducing symptom burdens, palliative rehabilitation can provide a vital source of support for patients and their caregivers during this challenging time. Inpatient rehabilitation is one way that palliative rehabilitation can be applied in a healthcare setting. While further research is needed to fully understand the benefits of this approach, it is clear that palliative rehabilitation has the potential to play a key role in helping patients and their caregivers navigate the challenges of cancer treatment and end-of-life care. This approach is specific to the USA context but can be applied in other settings where cancer patients require such care.

Keywords: Neoplasms / rehabilitation, Quality of life, Recovery of function, Survivors, Patient Care planning, Palliative.

DOI: 10.47391/JPMA.23-105

Background

Cancer has a significant effect on mortality worldwide, causes the death of 1 in every 6 individuals. It is estimated that 18.1 million new cases of cancer were diagnosed in 2020. Ten percent of new cancer cases worldwide are in south central Asia, the majority of which were head and neck cancer or breast cancer. It results in an immense financial burden, both from the direct expenses of treatment and rehabilitation as well as the indirect expenses of nonmedical care, disability, and loss of income.[1]

The care of cancer survivors is complex, often impacted by a combination of the disease itself, treatments, and comorbid medical conditions. Often, oncologists and surgeons do not have the training and expertise to manage functional impairments. These deficits can lead to worsening quality of life (QOL) and inefficient use of healthcare resources. Rehabilitation Medicine and Palliative Care physicians are uniquely equipped to address functional needs and symptom burdens for survivors by incorporating patient-centered care to improve QOL

Introduction

Although palliative care physicians have historically been considered an end-of-life resource, they are now recognized to have a much larger role in the continuity of cancer care. Palliative specialists are often consulted early cancer trajectory to help manage patient-reported symptoms (including pain, nausea, appetite, sleep, and anxiety) and collaborate with family and friends to decrease the burden of care. By focusing on advanced care planning discussions and end-of-life care, they can provide psychological and spiritual support during bereavement, as well as education regarding hospice care.[2] Incorporating palliative medicine early can maximize outcomes, maintain QOL, and help lower overall costs of care, especially in patient with higher comorbidities, by decreasing symptom burden and reducing intensive medical services that do not align with patient goals thus lowering hospitalizations and emergency resource utilization.[3]

Rehabilitation Medicine similarly aims to improve QOL and reduce symptom burden; however, it prioritizes functional independence to accomplish these goals. As seen in table 1, cancer physiatrists can use several approaches in inpatient and outpatient settings to implement therapy strategies to improve mobility, activities of daily living, cognition, and swallow, regardless of life expectancy. Near end-of-life, inpatient services can focus on caregiver training which involves assisting with activities of daily living such as bed level

[1,3]Department of Physical Medicine and Rehabilitation, Carolinas Rehabilitation, Charlotte, North Carolina, USA and Department of Supportive Care, Levine Cancer Institute, Charlotte, North Carolina, USA, [4]Armed Forces Institute of Rehabilitation Medicine (AFIRM), Rawalpindi, Pakistan

Correspondence: Farooq Azam Rathore. Email: farooqrathore@gmail.com

ORCID ID. 0000-0002-4759-0453

Table-1: Common rehabilitation interventions for inpatient and outpatient cancer rehabilitation settings.

Physiatry Interventions		Therapeutic Interventions	
Diagnostic imaging for musculoskeletal issues	Electrodiagnostic studies	Swallowing evaluation and treatment	Speech evaluation and treatment
Bowel/bladder dysfunction and management	Sexual dysfunction and management	Physical medicine modalities	Therapeutic exercise
Prescription medications	Injectable medications	Soft tissue manipulation	Lymphoedema management
Orthotics	Prosthetics	General exercise for strength and conditioning	Home safety evaluation
Assistive devices	Durable medical equipment	Workplace evaluation	Driving evaluation
		Orthotics	Prosthetics
		Assistive devices	Durable medical equipment

care and mobility, safe transfers out of bed and into chairs or even a car transfer, strategies for bladder and bowel management, and adjusting the home environment to maximize safety and independence.

Symptoms can be managed with a refined neuromuscular diagnostic skillset to identify pain generators, and other techniques can help prevent complications of bed rest and deconditioning at end-of-life. With broad experience in amputation, brain injury, spinal cord injury, and stroke, these physicians can apply common physical and rehabilitation medicine principles to cancer survivors. Their specialized experience provides insights into integrating cancer prognosis, functional expectations, and caregiver burden into clinical goal setting.

Several models of care delivery have been proposed to improve access and integration of palliative and rehabilitation medicine.[4] Impairments can be expected as a result of tumour burden and cancer treatment and can vary in terms of timing and scope of presentation. Examples range from mild sensory impairments to severe debility requiring prolonged hospitalization. With the application of realistic and adaptable patient-centered-goals, physiatrists are well positioned to navigate these complexities throughout the care continuum. The classification of rehabilitative care delivery is outlined by the Dietz model and includes four phases: preventative, restorative, supportive, and palliative. The preventative phase is utilizing rehabilitation to decrease severity of potential disability while restorative phase utilizes rehabilitation to return to premorbid functional status. Supportive phase entails normalizing a new functional baseline by supporting functional independence with disability. The palliative phase involves maintaining QOL by minimizing complications and maximizing functional independence.[5] Rehabilitation has historically been considered for restorative and supportive phases; however, like Palliative Care medicine, rehabilitation specialists can play a much larger role in the continuity of cancer care. One opportunity to apply these principles is in the setting of inpatient rehabilitation facilities, which have been shown to increase functional independence and reducing anxiety and depression for cancer survivors.[6] It can provide benefits at end-of-life settings, and in this brief review, resources will be outlined to explain how palliative rehabilitation can be used in inpatient settings.

Review

To date there are no recent controlled comparison studies of outcomes among hospice level patients who do or do not receive inpatient rehabilitation. A systematic review of randomized control trials evaluating the effects of rehabilitation among patients with advanced cancer in 2015 found 13 studies, only 1 of which evaluated rehabilitation in an inpatient hospice setting.[7] This 2012 study by Jones et al showed a significant benefit for those who received rehabilitation by revealing they had fewer psychological, physical, and patient care needs, reduced health service utilization, and higher QOL.[8] An observational study completed in 2020 by Hasegawa et al surveyed family members of deceased patients who received rehabilitation in an inpatient hospice unit. Family members believed patients at the hospice unit felt increased hope and pleasure, had improved relationships with medical staff, and were treated with more respect as an individual.[9] Although no other studies specifically addressed hospice or end-of-life patients in inpatient rehabilitation, studies have shown inpatient rehabilitation overall is valuable for cancer survivors.[10]

Discussion

The term "palliative" for many has become synonymous with end-of-life care, and like many who are diagnosed with cancer, there is unclear timing and denial of the

eventuality associated with end-of-life. As an example, survivors often discuss the concept of fighting and/or beating cancer, even though many patients will succumb to the disease. Despite this, early integration of palliative rehabilitation can benefit patients with functional impairments who are early in their cancer trajectory. Early intervention allows for supportive care planning, symptom burden reduction, QOL improvements, and healthcare resource optimization.[8] Rehabilitation is often underutilized with end-of-life care, as shown in a study which noted less than 10% of oncologists would recommend inpatient rehabilitation in advanced cancer patients with a prognosis of 6-12 months to live.[11]

Patients at end-of-life are largely concerned about not becoming a physical and emotional burden to their caregivers, thus QOL in cancer patients is highly dependent on functional independence.[12] The cancer physiatrists at inpatient rehabilitation facilities can provide oncology patients with opportunities to improve function and safety in preparation for returning home. One such strategy that inpatient rehabilitation utilizes is frequent caregiver training, which aims to prepare family members for limitations in patient activities of daily living and mobility. The delivery of rehabilitation to these patients must be specifically suited to an individual's needs and functional goals, as well as frequently reassessed due to the progressive nature of many cancer diagnoses.

Eligibility for hospice can vary by country. In the United States (US), cancer patients qualify for hospice services at home if they have a life expectancy of 6 months or less. Admission to a hospice facility typically has stricter requirements including severe and uncontrolled pain, intractable nausea and vomiting, and respiratory distress when individuals are actively dying and cannot be reasonably managed at home. Patients and caregivers who receive hospice services have been shown to have improved QOL and satisfaction of care.[3]

Not all patients who have a life expectancy of 6 months or less will be appropriate for an inpatient hospice unit, but at times may not be safe for immediate discharge to hospice at home due to their impaired functional level. These patients may stay and decline in the inpatient hospital setting until the end-of-life, leading to poor QOL prior to death with psychological impact to caregivers.[13] If impaired function prevents discharge to home, inpatient rehabilitation can provide the family and caregiver medical and rehabilitation support needed to permit a safe discharge via training to maximize safety and independence with mobility and ADL needs.

To be eligible for reimbursement, inpatient rehabilitation facilities in the US are mandated to make measurable functional improvements, within a given time frame, in patients who both require and can participate in active therapeutic intervention from physical therapy, occupational therapy and/or speech therapy for an average of 15 hours within a 7-day period. Unfortunately, common goals of palliative rehabilitation, like symptom management and caregiver training, and patients who cannot participate adequately in intensive rehabilitation programme are not considered appropriate by insurance to permit additional inpatient rehabilitation hospitalization days. About 1 in 6 patients with advanced cancer who complete inpatient rehabilitation programme may die within 2 months, but timelines are unpredictable because of variation in progression and uncertainty of death.[14] Future studies should evaluate improvement of functional effects in context of QOL, reduction in complications of both treatment and immobility, and mitigation of caregiver burden.

Conclusion

Palliative rehabilitation is a promising but underutilized resource for patients with advanced cancer. By maximizing functional independence and reducing symptom burdens, it can improve quality of life and support caregivers. Inpatient rehabilitation provides a safe and supportive environment for patients to receive care and for caregivers to receive training. This approach can be a powerful tool for improving quality of life in cancer patients, especially at the end of life. While more research is needed to fully understand the benefits, palliative rehabilitation has the potential to play a key role in cancer treatment and end-of-life care.

Disclaimer: None.

Conflict of Interest: None.

Source of Funding: None.

References

1. Cancer facts & figures 2023 [Internet]. American Cancer Society. 2023 [cited January, 5th 2023]. Available from: https://www.cancer.org/research/cancer-facts-statistics/all-cancer-facts-figures/2023-cancer-facts-figures.html
2. Brassil M, Gallegos-Kearin V, Tolchin DW. Subspecialty training: Hospice and palliative medicine. Am J Phys Med Rehabil . 2021;100:189–92. DOI: dx.doi.org/10.1097/phm.0000000000001489
3. Dalal S, Bruera E. End-of-life care matters: Palliative cancer care results in better care and lower costs. Oncologist. 2017;22:361–8. dx.doi.org/10.1634/theoncologist.2016-0277
4. Silver JK, Raj VS, Fu JB, Wisotzky EM, Smith SR, Kirch RA. Cancer rehabilitation and palliative care: critical components in the delivery of high-quality oncology services. Support Care Cancer. 2015;23:3633–43. dx.doi.org/10.1007/s00520-015-2916-1

5. Dietz JH Jr. Rehabilitation of the cancer patient. Med Clin North Am. 1969;53(3):607-24.
6. Riedl D, Giesinger JM, Wintner LM, Loth FL, Rumpold G, Greil R, et al. Improvement of quality of life and psychological distress after inpatient cancer rehabilitation : Results of a longitudinal observational study. Wien Klin Wochenschr [Internet]. 2017;129:692–701. Available from: http://dx.doi.org/10.1007/s00508-017-1266-z
7. Salakari MRJ, Surakka T, Nurminen R, Pylkkänen L. Effects of rehabilitation among patients with advances cancer: a systematic review. Acta Oncol [Internet]. 2015;54:618–28. Available from: http://dx.doi.org/10.3109/0284186X.2014.996661
8. Jones L, Fitzgerald G, Leurent B, Round J, Eades J, Davis S, et al. Rehabilitation in advanced, progressive, recurrent cancer: a randomized controlled trial. J Pain Symptom Manage.2013;46:315-325.e3. http://dx.doi.org/10.1016/j.jpainsymman.2012.08.017
9. Hasegawa T, Sekine R, Akechi T, Osaga S, Tsuji T, Okuyama T, et al. Rehabilitation for cancer patients in inpatient hospices/palliative care units and achievement of a good death: Analyses of combined data from nationwide surveys among bereaved family members. J Pain Symptom Manage 2020;60:1163–9. Available from: http://dx.doi.org/10.1016/j.jpainsymman.2020.06.031
10. Gallegos-Kearin V, Knowlton SE, Goldstein R, Mix J, Zafonte R, Kwan M, et al. Outcome trends of adult cancer patients receiving inpatient rehabilitation: A 13-year review. Am J Phys Med Rehabil. 2018;97:514–22.http://dx.doi.org/10.1097/phm.0000000000000911
11. Spill GR, Hlubocky FJ, Daugherty CK. Oncologists' and physiatrists' attitudes regarding rehabilitation for patients with advanced cancer. PM&R. 2012;4:96–108: http://dx.doi.org/10.1016/j.pmrj.2011.08.539
12. Heyland DK. What matters most in end-of-life care: perceptions of seriously ill patients and their family members. CMAJ [Internet]. 2006;174:627–33. Available from: http://dx.doi.org/10.1503/cmaj.050626
13. Wright AA, Keating NL, Balboni TA, Matulonis UA, Block SD, Prigerson HG. Place of death: correlations with quality of life of patients with cancer and predictors of bereaved caregivers' mental health. J Clin Oncol. 2010;28:4457–64. Available from: http://dx.doi.org/10.1200/JCO.2009.26.3863
14. Tennison JM, Asher A, Hui D, Javle M, Bassett RL, Bruera E. Palliative rehabilitation in acute inpatient rehabilitation: Prognostic factors and functional outcomes in patients with cancer. Oncologist 2023;28:180–6. http://dx.doi.org/10.1093/oncolo/oyac229.