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Patient-Focused Benefits of at-Home Versus in-Clinic Administration of Cancer Therapy: New Considerations for the COVID-19 Era

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Introduction: Cancer treatment includes conventional clinic-based infusions and various options for home administration of medication. Clinic-based treatment can be disruptive and costly to patients and caregivers, requiring transportation, time away from work/family responsibilities, and stressful clinical settings. The COVID-19 pandemic has increased concerns that patients may be exposed-or experience anxiety about exposure-to viruses and other pathogens. Potential benefits to home-based chemotherapy include cost/healthcare resource utilization savings and decreased infection exposure by avoiding clinical settings. In the COVID-19 era, ASH, ASCO, ESMO, and other groups have recommended home administration of chemotherapy, including infusions at home and self-administered oral and subcutaneous treatments, for certain cancer types where feasible. This literature review evaluated patient- and caregiver-relevant advantages of home-administered cancer therapy.

Methods: A strategic literature review was conducted using the pearl growing/snowball method, wherein core publications were identified using an initial PubMed search strategy with the MeSH heading "Antineoplastic Agents/Administration & Dosage" and the search terms "Home Care Services" and "Patient Satisfaction." Results were limited to English-language publications dated January 2000 to July 2020, ≥10 study subjects, adult subjects only, with no limits for geography or cancer type. A total of 21 initial results were retrieved in PubMed. Six core publications were used to establish keywords and for bibliographic and prospective citation searches to identify additional relevant publications relating to patient preference and patient/caregiver-reported outcomes regarding cancer treatment administration settings. In addition to PubMed, the following congresses were searched: ASH (2004-2019), ASCO (2011-2020), EHA (2016-2019) and ESMO (2010-2019).

Results: Thirty-one studies involving both hematologic cancers and solid tumors were identified from North and South America, Europe, Asia, and Australia. Cancer therapy was administered by patients/caregivers (ie, oral or subcutaneous) or a visiting nurse. All the studies reviewed reported benefits for home- vs clinic-based treatment. Patient expressed preference/satisfaction and willingness to continue with home-based regimens; while methodologies varied among studies, 70% to 100% of patients preferred home administration. Across studies, over half of patients receiving home treatment cited improvement in outcomes including well-being, activities of daily living, and family/social life, with benefits including convenience, comfort, reduced travel/financial burden, limited waiting time, and greater ability to maintain daily family/social activities. The impact on patient health-related quality of life (HRQoL) could not be compared quantitatively among studies as <25% of the studies used validated tools, e.g., EORTC-QOL-C30. Among studies using validated tools, HRQoL outcomes were generally similar for patients treated at home or in-clinic. There were very few reports of patients needing or choosing to return to clinic-based care after initiating home treatment. Studies that captured safety outcomes did not report increased adverse effects or emergency room visits among patients treated at home. Of the 3 studies reporting caregiver outcomes, most caregivers expressed satisfaction with and preference for home treatment.

Conclusions: The prioritization of therapies that can be administered at home has been proposed as a strategy for infection control in the COVID-19 era, but it is not currently a standard approach in the US. This targeted literature review consistently found patient-relevant benefits with home-administered chemotherapy. The identified studies provided minimal information on caregiver-reported outcomes, which is a limitation given that home-based cancer treatment impacts caregivers as well as patients. Home-based treatment may enhance quality of survival time and reduce healthcare resource utilization while maintaining clinical benefits of treatment and reducing contact with people in a busy clinical setting. While treatment decisions should consider patient preference for home-based treatment, some patients' treatment pathways will require care at an outpatient or inpatient facility.

Disclosures

Sandman: *Pfizer Inc.:* Consultancy. **Bell:** *Pfizer:* Current Employment, Current equity holder in publicly-traded company.

Author notes

* Asterisk with author names denotes non-ASH members.