Title:
Interprofessional Collaboration to Optimize Intrathecal Chemotherapy Administration

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Abstract Summary:
An interprofessional team initiated an evidence-based practice project in order to develop a comprehensive program for interdisciplinary and multi-institutional staff to ameliorate care for patients receiving chemotherapeutic agents through intrathecal administration.
Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
1. Describe evidence-based strategies to optimize efficacy of structures and processes for intrathecal administration of chemotherapeutic agents.	1. Identify salient steps of the evidence-based practice process for intrathecal chemotherapy administration. 2. Incorporate Institute of Medicine guidelines for cancer care and CMS requirements. 3. Delineate methods for

	integrating information technology to hardwire available options for cancer care.
2. Discuss approaches to building alliances among interdisciplinary and multi-institutional partners working in oncologic care.	1. Identify mechanisms for forming alliances across disciplines, two major healthcare systems, and two medical schools. 2. Discuss approaches for strengthening lines of interprofessional communication to effect optimal cancer care for persons who are economically disenfranchised.

Abstract Text:

Introduction

The American Cancer Society (2012) estimates over 1.5 million U.S. citizens are diagnosed with cancer annually. Receiving a cancer diagnosis can be devastating; not only for the patient, but also for caregivers and the healthcare system. The 2001 Institute of Medicine (IOM) report entitled, *Crossing the Quality Chasm: A New Health System for the 21st Century*, denoted the importance of incorporating evidence-based practices to enhance quality of care. The IOM (2013) delineated barriers and ways of optimizing oncologic care across the spectrum from diagnosis through treatment and beyond. The interdisciplinary IOM team developed a conceptual framework to address mechanisms for: 1) training staff and coordinating the workforce; 2) incorporating evidence-based care; 3) integrating an information technology system; 4) translating relevant evidence into practice; 5) providing accessible and relatively inexpensive care; and 6) engaging patients (Ferrell, McCabe, & Levit, 2013).

Gaps in Practice

The Special Procedure/Interventional Radiology (SP/IR) departments in two hospitals and two infusion centers within an academic, safety-net healthcare setting are responsible for administering chemotherapeutic agents via intrathecal routes (frequently prescribed to treat cancer in the meninges or prevent metastasis to the cerebrospinal fluid). Physicians and residents from two large medical schools in the metropolitan area staff the facilities. Anecdotal reports from nurses and other healthcare providers indicated structures and processes for chemotherapy administration, procedural support, and documentation varied at the four sites.

A team of nurses initiated retrospective chart audits to determine if current practices optimized or impeded intrathecal chemotherapy (ITC) administration, adhered to the Centers for Medicare and Medicaid Services (CMS) mandates, and positively or negatively impacted patient outcomes. CMS requires specific documentation to reflect patients' clinical care to prevent "a reduction of 2.0 percentage points in their annual payment update for failure to meet these requirements" (CMS, 2016). The audits revealed that physicians administered the chemotherapeutic agent via intrathecal route; however, due to documentation limitations in the electronic health record (EHR) registered nurses (RNs) actually documented the ITC administration.

Purpose

An interprofessional team initiated an evidence-based practice project in order to develop a comprehensive program for interdisciplinary and multi-institutional staff to ameliorate care for patients receiving chemotherapeutic agents through intrathecal administration.

Implementation

Nurses at the healthcare system use the Johns Hopkins Evidence-Based Nursing Practice Model as a framework for clinical inquiry. The team, comprised of nurse managers, bedside clinicians, physicians (hematologist, oncologist, and radiologist), pharmacists, and information technologists (IT), collaborated in conducting an evidence-based practice (EBP) project to identify salient evidence from the literature and experiential knowledge. Steps included writing a relevant PICO question, retrieving and critically appraising the extant literature (including the IOM guidelines and CMS mandates), and ultimately determining which information should be incorporated into policy revisions and translated into practice.

Information gleaned from the comprehensive EBP study and consideration of the IOM components for enhancing oncologic care indicated a multi-pronged approach should be developed to optimize structures and processes related to intrathecal administration of chemotherapeutic agents. Strategies included: 1) buy-in from key stakeholders (nurses, pharmacists, and IT) at the four healthcare system facilities, faculty from both medical schools and a local cancer treatment medical center (not under the auspices of the parent healthcare system); 2) consensus regarding multi-institutional staff education across disciplines; and 3) integration of new IT processes to facilitate acquisition of chemotherapeutic agents from pharmacy and documentation in the EHR.

A variety of educational pedagogies were used to initiate the new procedures including problem-based learning, case studies, simulation and peer coaching in clinical areas (which benefited both staff and patients). The nurse project leader provided staff with a face-to-face comprehensive review of the computerized chemotherapy plan of treatment specific to SP/IR areas. Additionally, each staff member received training on using the new electronic medication administration record section for ITC and the key requirements for accurate documentation. Courses were also added to the online learning management system (LMS) for continuing education and orientation for new hires working in oncology.

The IT department collaborated with other team members in procuring and modifying an oncology-specific computer program for chemotherapy treatment plans. The team created online LMS courses specifically targeted to all healthcare providers working with oncology patients. Due to the scope and complexity of the project, thirteen quick reference guides (with step-by-step illustrations) were created and placed online for easy access. Didactic training was employed to demonstrate the functionality of cancer staging, appointment management, and documenting treatment plans.

Remaining cognizant of the CMS mandates and a patient population comprised primarily of socioeconomically disenfranchised individuals motivated the team to focus on providing quality care while decreasing costs. An example of consideration of patients' needs included requesting ITC from pharmacy within 60 minutes of scheduled procedures which dramatically reduced patient wait times in the procedural areas.

Results

Creating a multi-faceted, evidence-based protocol resulted in more efficient structures and processes for staff education, reducing barriers in oncology care and allowing patients the time to process their diagnosis, understand treatment options, and obtain guidance through the complex healthcare system or end-of-life care. Positive outcomes were achieved by engaging patients in understanding their medical diagnosis and treatment plan prior to the initial ITC treatment, encouraging them to become full partners in planning the long-term care trajectory, and partnering with a renowned cancer center that provided patients with options for participation in cutting-edge clinical trials. Revamping EHR processes (e.g., snapshot view of the treatment plan which could be viewed by all disciplines on one computer screen) and integrating an IT system specifically geared to cancer diagnoses and standardized protocols dramatically enhanced acquisition and administration of ITC. The collaborative process provided unique opportunities for strengthening alliances across two hospital systems and two schools of medicine.

Implications for Practice

This interprofessionally-driven project created structures to enhance patient care by optimizing efficient and safe processes for delivery of ITC. An added bonus was purposeful engagement of patients and healthcare providers across multiple disciplines and organizations. This resulted in evidence-based cancer treatment protocols, anecdotal reports and observations of better lines of interprofessional communication and more cohesive alliances across the organizations and medical schools. Perhaps the most efficacious aspect of this endeavor was the engagement of patients and providing them with a voice in planning their trajectory of oncologic care.