Oral Chemotherapy Laboratory Monitoring and Follow-Up: A Review of the Literature

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BACKGROUND: There are many inefficiencies related to oral chemotherapy (OC) laboratory monitoring and follow-up in the ambulatory clinic setting. Patients with cancer prescribed OC have a higher risk of adverse events when there is inconsistent laboratory test result reporting and follow-up from their oncology provider.

OBJECTIVES: The aim of this article is to improve OC laboratory monitoring by identifying potential barriers and opportunities for reliable communication between patients and providers in the outpatient clinical setting.

METHODS: A literature review found 76 articles, of which 15 were selected for review. Six themes were synthesized and discussed.

FINDINGS: Healthcare systems use technology, standard pathways, and clear patient–provider communication following laboratory testing to ensure patient safety. Implementing and testing evidence-based solutions and structured frameworks to identify gaps in outpatient laboratory monitoring and follow-up can improve patient satisfaction and safety during OC treatment.

KEYWORDS
oral chemotherapy; safety standards; laboratory monitoring

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ORAL CHEMOTHERAPY (OC) REGIMENS HAVE INTRODUCED a new set of challenges for patients with cancer and healthcare providers regarding monitoring and follow-up with laboratory test results (McNamara et al., 2016). When patients receive IV chemotherapy in a controlled setting, such as an ambulatory infusion center or hospital, clinical staff analyze test results and assess patients for therapy-related toxicities before beginning treatment (Solomon et al., 2018). In contrast, patients are expected to self-administer OCs at home, where optimal outcomes and safe administration rely upon a partnership with their provider (Talens et al., 2021). The patient's primary responsibilities include strictly adhering to medication administration schedules, attending timely laboratory appointments, self-reporting adverse side effects, and maintaining provider follow-up visits. Patients continue to self-medicate with OCs despite missing provider or laboratory appointments, which places them at higher risk of experiencing adverse reactions, toxicity, or inadequate biological responses.

Almost 25% of all errors that occur in outpatient settings are attributed to inadequate follow-up of abnormal test results, which represent more than 25% of malpractice lawsuits and involve failures or delays in diagnosis or care (Newman-Toker et al., 2019). Effective communication and documentation standards for all clinically significant test results, including timely follow-up, are considered national patient safety goals (Joint Commission, 2021). Many medical malpractice claims have been linked to delays in reporting test results and are associated with poor clinical outcomes (Ai et al., 2018). Other studies have focused on OC administration and adherence issues (Atkinson et al., 2016; Mattson et al., 2019), but few have addressed the laboratory monitoring and follow-up processes necessary to ensure safe handling and effective management of these highly toxic medications. An integrative literature review was conducted to explore evidence-based practice (EBP) strategies associated with OC laboratory result monitoring to improve communication, close the loop in the outpatient setting, and learn about potential system failures affecting laboratory test result management for patients prescribed OCs in an ambulatory oncology care setting.

Methods

A literature search was performed using Academic Search Premier, Health Source: Nursing/Academic Edition, OpenAccess Journal Finder, Scopus®, and SocINDEX® using the search terms *oral chemotherapy*, *safety standards*, and *lab monitoring*. The purpose of the search was to evaluate best practices for managing laboratory test reporting in the outpatient oncology clinic.