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The impact of medication administration on laboratory test results and nursing interventions

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***Abstract*---Background:** Medication administration is one of the cardinal measures of patient care that will impact patient recovery as well as deserve high levels of concern regarding dose, route, and time of administration. However, drug effect interference with lab tests

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further blurs the likelihood ratio of investigations making patient conditions unreliable. It is primarily the responsibility of the nurses to coordinate these encounters safely and effectively to administer the medications and to observe the laboratory test results. **Aim:** The goal of this study is to scrutinize the effects of medication administration on laboratory tests, and the nursing actions required to prevent, control and resolve such drug-laboratory test interactions. **Methods:** The case reviews of medications and clinical propositions were carried out, with a focus at outcomes on laboratory tests and consequent actions of the nurse. Actual cases were interrogated with the intention of understanding how drug-laboratory tests interacted and how potential risks could be managed. **Results:** Moreover, the findings reveal that medications like warfarin, biotin, corticosteroids, rifampin affect laboratory tests and can cause diagnostic mistakes or improper dose modification. It was important that nurses were involved in the interception of these interactions and educating the patients as well as engaging the health care teams. **Conclusion:** Chemically induced laboratory alterations present both clinical and educational dilemmas unique to clinical practice and provide insight into the medicos' and patients' perspectives on medication reconciliation and ongoing education. Information on how drugs interact with laboratory tests can help nurses reduce risks, increase tests reliability, and improve patients' outcomes.

***Keywords*---**Medication administration, laboratory test results, drug-laboratory test interactions, nursing interventions, diagnostic accuracy, medication reconciliation.

Introduction

Medication administration is one of the essential aspects of patient care, a critical aspect of the management of the disease processes. It concerns strategies of administration of chemical products intended for use in the treatment of diseases with an intention of achieving better health. Medication administration is based on certain principles including the five rights of medication administration: right patient, right medication, right dose, right route and right time. However, similar to any process, medication administration has its dangers, specifically where concern exists regarding the impact of certain medications on laboratory values.[1,2] This paper seeks to present an understanding of laboratory tests being an important component of current health care system and a source of information that enables healthcare practitioners in the diagnosis, and management of illnesses. However, a medication can sometimes either react with the Physiology being measured or change an analytical process of the test being used. These drug-laboratory test interactions can result in false positive results, false negative or even magnified values which in one way or the other poses a challenge when interpreting a patient's health. The present study focuses on how medication administration affect laboratory test results and how nurses should raise awareness, monitor and attempt to mitigate the above interactions. It is for this reason that, through analysis of a real-life case and identification and

explication of a variety of nursing interventions, this paper seeks to contribute to the understanding of how healthcare workers can improve the likelihood of the accurate reporting of lab results, thus enhancing the provision of, and decision making about, patient care.[3]

Administrations of Medicines

Medication administration is a core process of delivering care to patients as it affects their outcomes in one way or another. It covers processes that entail ideal preparation, calculated dose administration and administration of pharmaceutical substances to remedy health conditions. Other health care givers like nurses, physicians, and pharmacists join hands to make a warrant that the use of drugs in the facility is safe and efficient. Common practices in medication administration include adhering to the “five rights”: Quintessential medication management, the right patient, the right drug, the right dose, right route, and right time. These principles are at the base of delivery secure medication practices and reducing of medication errors and ADRs. Nurses are usually involved in dispensing of medication, evaluating the response to medication by the patients and advising the patients regarding their medication.[4,5] They also ensure that they record the patients they administer the drugs to, this records come in handy in further treatment procedures, and in legal matters. Technology complemented by bar-coded medication administration (BCMA) and electronic health records (HER) has improved safety by minimizing possibilities of errors during dispensing or administering of drugs. Safety Concerns that usually arise during the administration of Medications include adhering to the “five rights”: the right patient, the right drug, the right dose, the right route, and the right time. [6]These principles form the foundation of safe medication practices, minimizing errors and adverse drug reactions. Nurses play a critical role in administering medications, monitoring patient responses, and educating patients about their treatment plans. They also maintain meticulous documentation of administered drugs, which serves as an essential reference for ongoing care and legal purposes. Advances in technology, such as barcoded medication administration (BCMA) and electronic health records (EHRs), have further enhanced safety by reducing the likelihood of errors during the medication administration process.

- **Common Practices in Medication Administration**

Medications administration is ordered in rigid patterns that help to reduce of possible variations thereby enhancing accuracy and safety. There are standard procedures in place that have always been followed, some of the measures that healthcare practitioners follow include: double checking the prescriptions that has been written to see that they are correct, where there is doubt, asking the prescriber, other factors that should be considered include allergy and other medications that the patient is already on. Among the most popular techniques of administration there are small volume intravenous (IV), large volume intravenous, oral, intramuscular, and subcutaneous administration, which defines depending on the drug, its characteristics and needed result, and the state of the patient. For instance, oral administration is used due to its advantages and the possibility to achieve a rapid onset of action is achieved by using intravenous administration. Nurses also focused on patient’s satisfaction and explained the

patient about any change in the medicine dosage schedule, side effects if any and then, the patient's concerns were also listened to. Moreover, medication reconciliation, a process of comparing patient's prescribed medicine list, prevents adverse events in relation to his or her medications.[7,8]

- **Bioavailability and Drug Distribution**

Medication effectiveness mostly depends on the drug bioavailability which in turn depends on the certain factors. Distribution refers to the movement of the drug from the site of application and into the systemic circulation and is influenced by the route of administration, formulation of the drug and food in the gut. For instance, lipid-soluble drugs can easily be absorbed in the intestine than water-soluble ones that may require specific means to be released in the site of absorption . Biological availability therefore refers to the proportion of a drug that gets through metabolism that occurs mainly in the liver by enzymes and forms active or inactive metabolites.[9,10]

Age, genetics, and particular levels of liver functioning directly affect metabolic rates themselves. Older patients for example may take longer to metabolize drugs because the liver enzymes are slower hence leading to more prolonged drug action, increased risk of toxicity. Likewise, different mutations of the cytochrome P450 enzymes are differently involved in drug metabolism and may benefit from different dosing to achieve the best therapeutic effects.[11] Other factors include, other drugs that use the same metabolic enzymes that may either induce or inhibit and other diseases states for instance liver disease or renal disease affecting drug elimination. Knowledge of these factors is crucial for health care professionals in order to optimize medication schedules and produce both therapeutic and safe outcomes.[12] The AUC is used to assess the total exposure of the body to an active substance. **(Figure 1)**

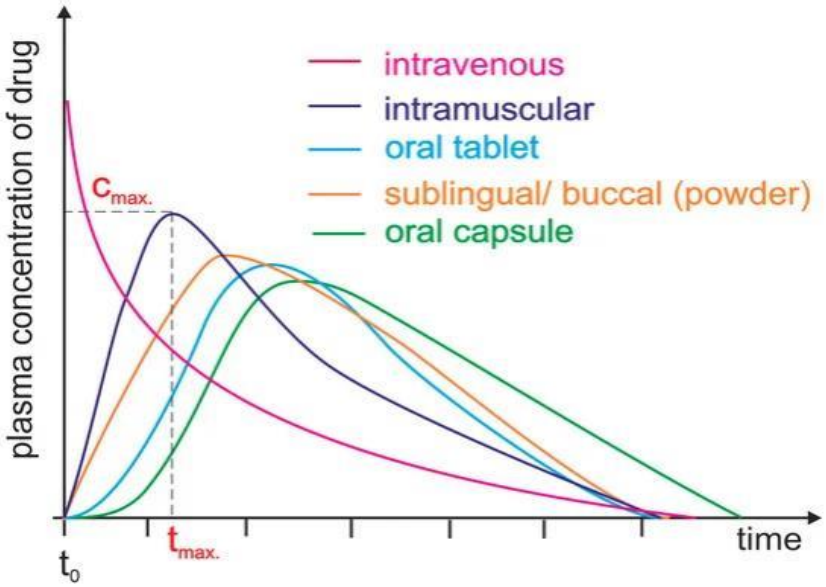

Figure1: Plasma level time curves for different types of drug administration

Laboratory Tests Reports and Clinical Implications

Clinical Laboratory tests are a crucially important part of modern medicine and is important in the diagnosing and management of diseases. These tests inform regarding a subject's physiologic and biochemical condition and indicate how severe conditions are and how good treatments are. Based on their fundamental use, laboratory tests are often grouped into diagnostics, doing-monitoring, and screening tests. For example, where lab tests include blood cultures or imaging scans that guide identification of the symptoms' origin, and chronic tests such as glucose or cholesterol levels that evaluate treatment effects periodontally.[13] A mammogram or a colonoscopy is an example of a type of screening test in which diseases are searched for in the patient despite the pre-symptomatic nature of the disease. Interpretation of laboratory results therefore helps the clinicians to arrive at sound clinical decisions, eliminate guess work, and offer appropriate management. Furthermore, some laboratory results may be within normal range but they proved dangerous and can become significant if the necessary evaluation and handling is not done which can help to halt disease or complications'-associated complications:

- **Types of Laboratory Tests Commonly Fertiloscopies**

They are performed on asymptomatic individuals to detect diseases in their early stages. Accurate interpretation of laboratory results enables healthcare professionals to make informed clinical decisions, reduce uncertainties, and provide timely interventions. Moreover, abnormal laboratory values often serve as warning signs, prompting further investigation and management, which can prevent the progression of diseases or complications.[14]

- **Types of Laboratory Tests Commonly Affected**

Many lab tests are either primary or secondary affected by medications, diets, fluid intake, specific medical conditions, etc. For instance, LFTs including ALT, AST and other enzymes are altered by medications administered with hepatotoxicity. Likewise, the anticoagulant medication warfarin affects coagulation tests, PT and INR that are useful in the management of clotting problems. Renal function tests such as serum creatinine and blood urea nitrogen (BUN) may be affected by nephrotoxic drugs or by dehydration. Stimulatory/hormonal assays like T3, T4, TSH are reliably affected by drugs like corticosteroids or amiodarone. Some blood tests known as complete blood count (CBC) examine the status of hemoglobin, white blood cell count, and platelets may be impacted due to chemotherapeutic agents that limit the activity of bone marrow. Knowledge of these potential influence enables those in the healthcare profession embrace an accurate understanding of the tests' results thus reducing chance of diagnostic fallacies. Constants to be Assessed in Clinical Environments, are performed on asymptomatic individuals to detect diseases in their early stages. Accurate interpretation of laboratory results enables healthcare professionals to make informed clinical decisions, reduce uncertainties, and provide timely interventions. Moreover, abnormal laboratory values often serve as warning signs, prompting further investigation and management, which can prevent the progression of diseases or complications.[15]

- **Critical Parameters Monitored in Clinical Settings**

Routine vital signs in settings of laboratory include critical data in assessing and monitoring acutely ill patient, efficacy/ effectiveness of different therapeutic measures and prognosis. In the emergency or ICU environment, periodic ABG analysis is essential for assessment of the patient's overall oxygenation, ventilation, and acid-base status to detect the presence of either a respiratory or a metabolic abnormality. Sodium, potassium, calcium, magnesium – electrolytes are highly sensitive to be closely itching out regular checks, irregularities in which may cause problems like arrhythmias, muscle dystrophy or neurological disorders. Other important variables are blood glucose levels necessary for patients suffering from diabetes or patients taking parenteral nutrition since abnormal variations in blood glucose levels cause hyper or hypoglycemia. Also, any enzyme elevated in blood has a significant value in diagnosing and evaluating the myocardial infarction, such enzymes include troponins and CK-MB.[16] Clotting tests PT, INR, and aPTT are useful in patients on an anticoagulant or with bleeding diathesis. The constant tracking of these variables in clinical practice allows any acute and potentially fatal shift in values to be detected promptly and further medical interventions to be initiated as a result. It is a common endeavor of clinicians, laboratory technicians, and nurses to eschew unreliable laboratory test results despite the increasing dependence on laboratory data.[17]

Impact of Medications on Laboratory Test Results

Medications play a crucial role in patient care but can also significantly impact laboratory test results, leading to potential misinterpretation of a patient's condition. Drug-laboratory test interactions occur when a medication alters the measurement or interpretation of a test result, either by affecting the test's biochemical or physiological process or through interference during the analytical phase.[21] These interactions can manifest as false positives, false negatives, or exaggerated values, which may result in diagnostic errors, inappropriate treatment adjustments, or unnecessary follow-up testing. Healthcare providers need to be aware of these potential interactions to accurately assess patient health and manage therapeutic regimens effectively. As the complexity of medical treatments and diagnostic technologies increases, the likelihood of encountering drug-laboratory test interactions grows, emphasizing the importance of understanding this relationship to optimize patient outcomes and minimize risks.[22]

- **Drug-Laboratory Test Interactions**

Drug-laboratory test interactions are broadly categorized into two types: pharmacodynamic and analytical interferences. Pharmacodynamic effects involves changes within the body's system after the drug affects a certain response causing change in parameters. For instance, a loop diuretic such as furosemide may lead to a disorder of electrolytes. Including hypokalemia or hyponatremia, in practice reflected in laboratory tests, for instance. Analytical interferences, on the other hand, rise from the ability of the drug or one of its metabolites to interfere with the laboratory assay employed in testing. Some drugs, including biotin, can

affect immunoassay and therefore cause altered thyroid function tests or cardiac biomarker testing results. Likewise, there are certain drugs like cephalosporin which interferences with the assay reagents used in kidney function which results in increase in the level of creatinine. **(Figure 2)** These interactions show how laboratory findings should be understood in patients with pharmacological treatment and the peculiarities of the mechanisms and assay restrictions[23].

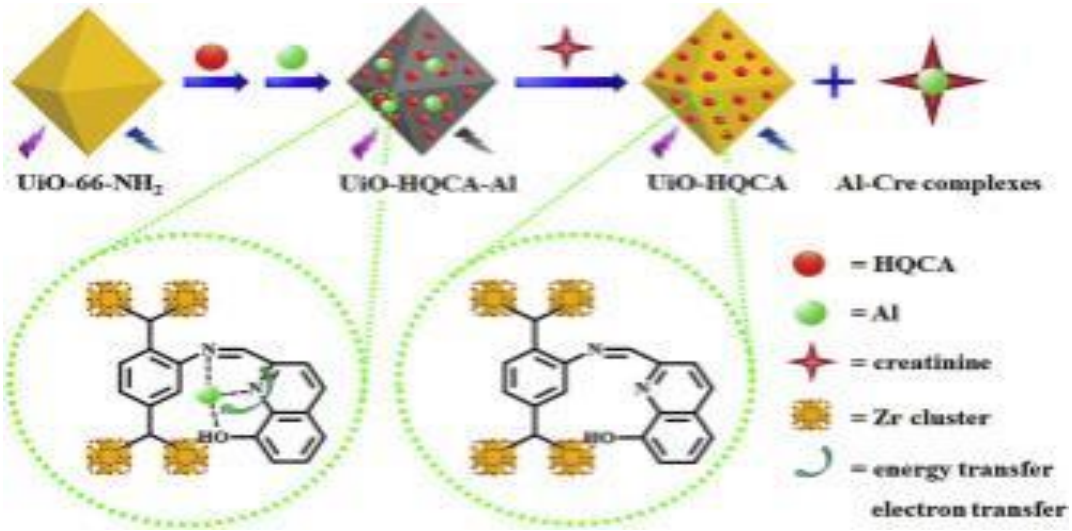

Figure 2: Turn-on fluorescence sensor for creatinine based on quinoline-modified metal organic frameworks

- **Some medication effects on altered test result in blood tests**

Analytical interferences, on the other hand, involve the direct impact of a drug or its metabolites on the laboratory assay used for testing. Certain medications, such as biotin supplements, are known to interfere with immunoassays, leading to erroneous results in thyroid function tests or cardiac biomarker assessments. Similarly, some antibiotics, like cephalosporins, can falsely elevate creatinine levels due to their interaction with the assay reagents used in kidney function tests. These interactions highlight the complexity of interpreting laboratory results in patients undergoing pharmacological treatment, requiring a thorough understanding of the underlying mechanisms and assay limitations.[24]

- **Examples of Altered Test Results Due to Medications**

Many examples have been described regarding how drugs can affect the laboratory tests, and usually, with a meaningful clinical relevance. Glucocorticoids are frequently used for their anti-inflammatory properties, and elevate blood glucose levels, might cause diabetes mellitus or worsen it. Some drugs including nonsteroidal anti-inflammatory drugs (NSAIDs) like ibuprofen will do something to the kidneys, thus causing high serum creatinine and blood urea nitrogen (BUN). Heparin and warfarin interfere with coagulation assays such as PT and INR, and, therefore, must be monitored closely to avoid complications with

both efficacy and bleeding. Also, drug treatments, consisting of oral contraceptives, may alter the results of thyroid function tests by causing enhanced levels of TBG, thus interferometry with thyroid pathology. Furthermore, such drugs as lithium can raise serum calcium and affect the kidney's function; therefore there is a need to monitor serum calcium and creatinine frequently. Such examples drive the point about the need to compare the laboratory results with other clinical features and history of drug use in patients. It will be very useful to know how certain medications affect the results of tests, in order to minimize those risks and provide improved patient care. Patient Care Model: Drug/Laboratory Test Relationships.[25,26]

Management of Nursing Interventions

Nurses central to organizing and directing drug-laboratory test interaction as means of protecting the safety of different patients through effecting proper interventions. A major role of the nurse is to assess the patient for adverse effects of medication on laboratory tests. This includes knowledge of the pharmacokinetics of drugs that are prescribed for the patient and their relationship with routine laboratory tests. Nurses themselves still have to be active in monitoring patterns or variations in the tests that may be suggestive of interaction or side effects of the drugs. Moreover, they are supposed to teach patients how medication can affect their laboratory tests, for example telling a patient that they need to fast before the blood test or a certain medication was stopped before the test result is taken. Nurses guarantee the role of laboratory information in clinical decision due to their participations in the prevention, identification and management of drug-laboratory test interaction.[27]

Communicational and Documentation processes Laboratory Test Interactions

Nurses play a pivotal role in managing drug-laboratory test interactions, ensuring the safety and well-being of patients by employing targeted interventions. One of the primary responsibilities of nurses is to monitor patients for signs of potential drug-induced laboratory test abnormalities. This involves understanding the pharmacological properties of prescribed medications and their potential impact on common laboratory parameters. Nurses must stay vigilant in identifying trends or deviations in test results that may signal drug interactions or adverse effects. Additionally, they are responsible for educating patients about how medications may influence their laboratory results, such as advising them on fasting requirements or temporary medication discontinuation before certain tests. By actively participating in the prevention, identification, and management of drug-laboratory test interactions, nurses ensure that laboratory data remains reliable, supporting accurate clinical decision-making.[28,29]

- **Monitoring and Documentation Practices**

The basic principles of monitoring remix and documentation for managing drug-laboratory test interactions in clinical practice. Upon admission and from time to time, nurses assess patients' clinical status and compare their current laboratory results to medication side effects. This implies that there is need for the staff to

appreciate the normal reference ranges of various laboratory variables and also the ability to differentiate between these effects and changes resulting from actual progression of the disease. For instance, if a patient is taking anticoagulation drugs like warfarin, the nurses frequently check the patients INR levels to ensure they are within the therapeutic range to avoid either bleeding or clotting. Stylized annotation of such observations is equally important as it then provides tangible evidence of laboratory trends over time, medication administration times, and any interventions that may have to be made. Nurses enter written documentation like test data, signs and symptoms, and action plans about patient care into EHRs, thus improving physician, pharmacist, and other members of a health-care team's coordination. So important documentation does not only supports ongoing care but also it becomes tool. First for legal reason and second for professional responsibility.[30]

- **Communication with Healthcare Teams**

Having good communication is crucial in drug-laboratory test interactions because it helps employing medical professionals to harness the strengths of every member to serve the interest of the patient. Nurses also play an intermediary role in ensuring that they communicate necessary information concerning effects of laboratory test outcomes in relation to medication intends to be administered. If, for example, abnormal results are noted, then nurses immediately alert the physicians, pharmacists, or other lab staff to find out why imbalance has occurred and what corrective actions should be taken. For instance, if a particular drug has been found to cause liver enzyme rise, the registered nurse consults with the physician on whether the dosage ought to be changed or the drug replaced all together. In addition, the nurses participate in interdisciplinary communication regarding patient care, for example in round discussions or case conferences while they exchange information on the patients' responses to drugs as well as investigations.[31] They also include ensuring patients understand the consequences of their laboratory findings followed by patient involvement in decision making. Nurses' collaboration on a patient's care delivery facilitate accurate diagnosis, timely intervention, and safer ways of managing interactions between drugs and laboratory tests.[32]

Case Studies on How Medication Affects the Test Result

Received experiences from clinical practice show how medications can affect laboratory values and may produce a charade that may call for interceptive expertise. All these examples prove so much of a need to have adequate information between a drug and a laboratory test so as to facilitate a accurate preliminary diagnosis and treatment. [33]

1. **The drug warfarin as well as coagulation tests**

A 65 year old man on warfarin for atrial fibrillation were seeing him for follow up appointment in clinic. The patients' international normalized ratio (INR) is perhaps the most sensitive marker of coagulation, which had dangerously soared to 5.5, against 2.0-3.0 norm. He was compliant with his dosage regimen and he had informed our team of recent use of an over the counter antibiotic of

sulfamethoxazole-trimethoprim for UTI. Sulfamethoxazole trimethoprim is an inhibiter of anticoagulant warfarin metabolism. resulting to enhanced anticoagulant activity and higher INR values. This scenario points to the importance of reporting and preventing drug interactions as well as, informing patients of possible repercussions on laboratory values. The physician then changed the warfarin dose and told the patient to avoid such antibiotics in future without informing the doctor.

2. Effect of Biotin Supplementation on Thyroid Function Tests

A female patient age 42 years complained of tiredness and increased weight gain with symptoms suggesting hypothyroidism. Serum free T 4 level was elevated and T SH was reduced from normal values that did not correlate to patient's manifestations. During notes scrutiny, the nurse noted that the patient had high dose biotin supplements for hair and nail treatment. In the patient under consideration, supra therapeutic doses of biotin present acutely distorted the lev ling of routine biochemical immunological assays leading to spuriously raised level of the free T4 and suppressive low TSH. Serum TSH and free T4 levels tested normal after abstaining from biotin for 72 hours out of a context of normal thyroid function. Misdiagnosis further cemented is brought about in this case to underline the need for effective medication reconciliation that involves OTC supplements.

3. Effects of Corticosteroids on Blood Glucose

One seventy year ex-, female patient, who has rheumatoid arthritis, was treating her with high dose of prednisone due to a severe flare. While patient was in the hospital, her blood glucoses ranged from 200-250 and prior to the admission there were no reports of diabetes mellitus. Orally administered corticosteroids such as prednisone can cause hyperglycemia as a result of promoting gluconeogenesis and diminishing... With regard to the patient's glycaemia, the nursing team coordinated together with the physician, so that the insulin requirement could be fulfilled if necessary. This case affirms the content focus for nurses as far as identifying medication effects and their further actions when thinking about possible adverse effects.

4. Rifampin, a CYP450 enzyme inducer,

Causes liver enzyme induction and alters standard liver function tests, including AST and ALT.A 48 years old male patient receiving rifampin as part of antituberculosis therapy was evaluated, showing an increase in liver enzymes, both ALT and AST. Some of the side effects that rifampin has include hepatotoxicity, it causes the liver inflammation plus changes the test results. The nursing team reported the case to the physician, who opted to continue the use of rifampin, monitor the laboratory findings while keeping the patient free of symptoms of liver dysfunction. We conclude that routine laboratory monitoring and effective communication among the health care team are appropriate in managing medication-induced changes.

The examples above show how important it is for the healthcare providers themselves to look for the causes and alterations that have resulted from the medications administered that effects the laboratory test results. In light of the various and often complex drug interactions, this paper has provided insight into the classic mechanism based approach of how and why such interactions occur while emphasizing on how nurses and other healthcare personnel can prevent or reduce such risks and therefore provide better patient care.[34,35]

Challenges and Limitations

Possible hassles serve as a hindrance to the interpretation of the results of the study. Incorporation of laboratory findings into medicine administration presents various difficulties to the clinicians. This is because one of the major identified precursors to specimen validity issues is often the absence of or limited knowledge concerning the effects of drugs on laboratory tests among health personnel. Clinicians may not be adequately aware of how a given drug modifies particular performing laboratory parameters and hence misidentify results that exist substantial diagnostic discrepancies. For instance, increasing serum creatinine can be attributed to renal dysfunction when in actual sense it could be due to use of drugs such as trimethoprim, which reduce secretion of creatinine. Likewise, patients use other drugs or Supplements that affect laboratory tests but are not always reported during their clinical assessment. Another important factor is that pharmacological interactions are more intricate in patients with multiple diseases with multiple medications.[15] In such situations it becomes practically impossible to determine the changes in the laboratory values due to one drug alone which in turn has some chances of missing out on real changes. Furthermore, different methods of testing and different reference intervals make the interpretation of results even more difficult since results from different laboratories may not be directly comparable. These challenges mean that there is need for constant ongoing education for personnel in the healthcare sector as well as better ways of documenting medication histories to enhance understanding of results being offered. informant of the nursing team contacted the physician who agreed for the continuation of rifampin by merely supervising the condition of the patient, the patient did not exhibit signs of liver dysfunction.[16,17,18] We conclude that routine laboratory monitoring and effective communication among the health care team are appropriate in managing medication-induced changes. [20,22]

Conclusion

Thus, the interconnection between administration of medications and laboratory tests on one hand and the evaluation of therapeutic outcomes on the other hand points to the fact that medicine today is a sophisticated discipline. Though these medications are crucial for managing a range of medical conditions, they may have a profound impact on the laboratory tests which are critical in diagnosing a patient and determining a treatment regime. In this contribution, we clarify that drug-laboratory test interactions, though often not recognized as a risk factor, can result in adverse health consequences such as misdiagnoses, unwarranted changes in therapy, or even unjustified medical interventions. Because nurses are part of the healthcare team they must recognize and coordinate these interactions

as they are directly involved in patient care. The knowledge that they have about patient's response, characteristics of certain medications, and possible implications that certain medications may have on patients' laboratory results is crucial to its reliability. In addition, as the pace of accumulation of new knowledge in the field of medicine, and the growth of the dosage intensity of medication, it also confirms a need for further education and training in the given sphere. Alternatively, through facilities sorted within the medical databases, nurses can find new interactions between drugs and laboratory tests and sharpen their skills to better identify prone drug-laboratory test interactions while following modern clinical instructions. Consequently, through the active engagement and interaction that occurs between patients, their care givers and the laboratory, the findings are made to be accurate.

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تأثير إعطاء الأدوية على نتائج التحاليل المخبرية ودور التدخلات التمريضية

الملخص
الخلفية: يعد إعطاء الأدوية أحد الإجراءات الأساسية في رعاية المرضى، حيث يؤثر بشكل مباشر على تعافيهم ويتطلب مستويات عالية من الدقة فيما يتعلق بالجرعة، وطريقة الإعطاء، وتوقيته. ومع ذلك، فإن تداخل تأثير الأدوية مع الاختبارات المخبرية قد يضعف موثوقية النتائج، مما يجعل تقييم حالة المريض أقل دقة، ومن المسؤوليات الأساسية للممرضات تنسيق هذه الجوانب بشكل آمن وفعال، لضمان إعطاء الأدوية بشكل صحيح ومراقبة نتائج الفحوصات المخبرية.
الهدف: تهدف هذه الدراسة إلى دراسة تأثير إعطاء الأدوية على الاختبارات المخبرية، وتحديد التدابير التمريضية اللازمة لمنع هذه التداخلات، والسيطرة عليها، ومعالجتها.
الطرق: تم مراجعة الحالات المتعلقة بالأدوية والاقتراحات السريرية، مع التركيز على تأثيرها على نتائج الاختبارات المخبرية والإجراءات التمريضية الناتجة عنها، كما تم تحليل حالات واقعية لفهم كيفية تداخل الأدوية مع الاختبارات المخبرية وكيفية إدارة المخاطر المحتملة.
النتائج: كشفت النتائج أن بعض الأدوية، مثل الوارفارين، البيوتين، الكورتيكوستيرويدات، والريفامبين، تؤثر على الاختبارات المخبرية وقد تؤدي إلى أخطاء تشخيصية أو تعديل جرعات غير صحيح، كان من المهم أن تكون الممرضات مشاركات في اعتراض هذه التداخلات، وتثقيف المرضى، وتعزيز التواصل مع فرق الرعاية الصحية.
الخلاصة: تظهر التغيرات المخبرية الناجمة عن تأثير الأدوية تحديات سريرية وتعليمية فريدة من نوعها في الممارسات السريرية، كما توفر رؤى حول أهمية تسوية الأدوية والتعليم المستمر للكوادر الصحية والمرضى، إن توفير معلومات حول كيفية تفاعل الأدوية مع الاختبارات المخبرية يمكن أن يساعد الممرضات في تقليل المخاطر، وزيادة موثوقية النتائج، وتحسين مخرجات المرضى.
الكلمات المفتاحية: إعطاء الأدوية، نتائج الفحوصات المخبرية، تداخلات الأدوية مع الفحوصات المخبرية، التدخلات التمريضية، دقة التشخيص، تسوية الأدوية.