Al-Rafidain J Med Sci. 2023;4:1-5.
DOI: https://doi.org/10.54133/ajms.v4i.95

A J M S
Online ISSN (2789-3219)

Research Article

Patient Identification Errors in the Hospital Setting: A Prospective Observational Study

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Received: 22 November 2022; Revised: 20 December 2022; Accepted: 5 January 2023

Abstract

***Background and aim*:** In every aspect of clinical care, including diagnostic testing and medication administration, patient identification (ID) errors can disrupt care and harm patients. The study assesses healthcare workers' frequency and accuracy in verifying patient identity before performing common tasks and develops a proposed patient verifying identity program clinical model to meet the training needs of healthcare workers. ***Methods*:** An observational cross-sectional study was conducted at Al-Najaf Teaching Hospital from March to May 2022. Data collection was done through a questionnaire and participatory observation. Hundred-forty healthcare workers participated in the study: 52 clinic doctors, 27 registered nurses, 34 information officers, 17 pharmacists, 4 radiologists, and 6 outpatient hospital doctors. ***Results*:** The majority of participants (62.1%) were female. The majority of the 40 participants (28.6%) worked in the operating room. Furthermore, the majority of the participants (82.1%) did not ask the patients for their names and dates of birth (DOB). Clinic doctors made up the majority of those who did not complete the identification process (37.1%). ***Conclusion*:** More than three-quarters of healthcare workers missed patient identification while performing a task. Although patient identification errors frequently result in serious adverse events that can be avoided with better training, better use of technology may improve the way healthcare workers verify patients' identities.

***Keywords*:** Patient safety, Identification of patient, Patient identification errors, Healthcare workers.

أخطاء تحديد هوية المريض في بيئة المستشفى: دراسة رصدية مستقبلية

الخلاصة

الخلفية:يمكن أن تؤدي أخطاء تحديد هوية المريض إلى الحد من العناية وإلحاق الضرر بالمرضى في كل جانب من جوانب الرعاية السريرية، بما في ذلك الفحوصات التشخيصية واعطاء الأدوية. يجب التحقق من هوية المريض قبل إجراء التدخلات الطبية لضمان إجراء التداخل على المريض الصحيح. تشمل المجالات الرئيسية التي يمكن أن يحدث فيها سوء تحديد هوية المريض اعطاء الأدوية، نقل الدم، والتدخلات الجراحية. **هدف الدراسة**:تقييم تواتر ودقة قيام العاملين في مجال الرعاية الصحية بالتحقق من هوية المريض قبل أداء المهام الشائعة وتصميم نموذج سريري مقترح لبرنامج التحقق من هوية المريض للعاملين في مجال الرعاية الصحية في احتياجاتهم التدريبية. **المنهجية**: تم إجراء تصميم دراسة وصفية مقطعية في مستشفى النجف التعليمي في الفترة من مارس إلى مايو 2022 واستخدمت الاستراتيجيات المنهجية لجمع البيانات في استبيان تقييم، وملاحظة تشاركية، واستبيانات من أجل تقييم العاملين في مجال الرعاية الصحية الذين يتحققون من هوية المريض قبل أداء المهام اليومية. شارك في الدراسة مائة وأربعون عاملا في مجال الرعاية الصحية :52 طبيب عيادة، 27 ممرضة مسجلة، 34 موظف مسجل معلومات، 17 صيدلانيا، 4 أخصائيي أشعة، و 6 أطباء خارج المستشفى. **النتائج** : كانت غالبية المشاركين من الإناث 62.1%؛ كما عمل معظم المشاركين في غرفة العمليات بحوالي 28.6% بالإضافة إلى ذلك، فإن معظمهم لا يتعرفون على الهوية وكان82.1%منهم لا يسألون عن الاسم وكان اطباء العيادة غالبية الأشخاص المشاركين الذين لا يقومون بعملية تحديد الهوية بنسبة 37.1%. **الاستنتاج**:وجدت الدراسة أن أكثر من ثلاثة أرباع العاملين في مجال الرعاية الصحية فشلوا في التحقق من هوية المريض قبل أداء المهمة. على الرغم من أن أخطاء تحديد هوية المريض غالبا ما تؤدي إلى أحداث سلبية خطيرة ولكن يمكن الوقاية منها عن طريق تحسين التدريب، إلا أن الاستخدام الأفضل للتكنولوجيا قد يحسن الطريقة التي يتحقق بها العاملون في مجال الرعاية الصحية من هوية المريض.

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Article citation: Alkhaqani AL. Patient identification errors in the hospital setting: A prospective observational study. *Al-Rafidain J Med Sci*. 2023;4:1-5. doi: 10.54133/ajms.v4i.95.

INTRODUCTION

The patient safety culture (PSC) determines the commitment, style, and competence of healthcare institutions. Its development is heavily influenced by health professionals' behaviors, which are in turn influenced by organizational management. Patient safety entails reducing risks and errors and near misses while providing health care services [1]. Over the last few decades, patient safety has emerged as a top health priority around the world, serving as one of the primary goals of healthcare institutions [2]. Nonetheless, despite the focus on safety policies to improve the quality of care, the risks and occurrence of adverse events have increased significantly, particularly in the hospital setting. Care-related adverse events are major causes of morbidity and mortality around the world. They have a significant impact on the health sector, causing harm not only to patients but also to professionals, who suffer ethical and moral harm as well as harm in professional-patient interactions. These also result in cost increases, decreased institution reliability, and moral and organizational damage [3]. When there is a mismatch between a specific patient and the components of his or her care, whether diagnostic, therapeutic, or supportive, patient safety is jeopardized. Due to a lack of information on patient identification and the appropriate clinical interventions planned throughout health care, adverse outcomes continue to occur. Before performing a medical intervention, the patient's identity should be confirmed to ensure that the intervention is performed on the correct patient [4]. Whether it is taking a history, selecting a medical document, performing a procedure, administering medication, or transferring the patient to another hospital, the verification process must be completed. The number of errors caused by caregivers is unknown precisely because they did not correctly identify patients. They are most likely common. Errors in patient identification, on the other hand, are particularly problematic because they are preventable and may affect the patient in more than one way. The patient may first receive an unintended intervention, and then he or she may not receive the intended intervention [5]. Patient identification is defined as first identifying the individual as the person for whom the service or treatment is intended, and then matching the service or treatment to that individual. Identification errors can also be classified into three types: incorrect patient identification, incorrect body part identification, and using the wrong patient biological materials. The first category includes possible incompatibilities of names, identification documents, numbers, and social security codes; the second category is related to therapeutic interventions in the wrong place (for example, surgical procedures); and the third category includes the analysis of pathological specimens and other biological fluids from the wrong patients [6]. Figure 1 depicts the patient identity verification process in detail.

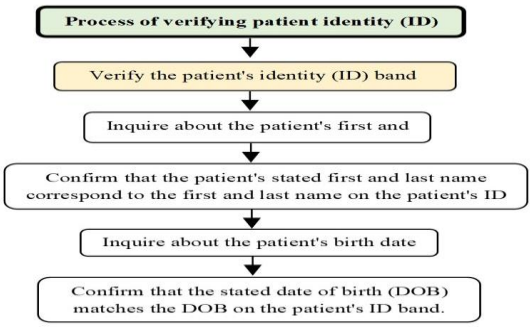

Figure 1: The process of verifying patient identity.

Identifying patients is an important first step in medical care processes and an important safety resource; when implemented and used correctly, it helps to prevent serious errors and patient harm. Failure to correctly identify patients continues to result in medication errors, transfusion errors, testing errors, wrong-person procedures, and infants being discharged to the wrong families across the healthcare setting [7]. The failure to identify patients is widely acknowledged as a major source of many problems. Furthermore, misidentification can have a significant impact on the provision of health services; thus, additional efforts should be focused on reducing this significant source of preventable medical errors [6]. Medication administration, phlebotomy, blood transfusions, and surgical intervention are the most common areas where patients can be misidentified. While wristbands have traditionally been used to identify hospitalized patients in some countries, missing bands or incorrect information limit the system's efficacy. Wristband color coding allows for quick visual identification of specific issues, but the lack of a standardized coding system leads to errors by staff who provide care at multiple facilities [8]. Some new technologies, such as bar codes, can help improve patient identification. Some of these have proven to be economical. Regardless of the technology or approach used to accurately identify patients, careful planning for care processes, such as the implementation of revised patient identification processes, expert consensus, and reports of significant error reduction from individual facilities [9], will ensure that the patient is correctly identified before any medical intervention and provide safer care with far fewer errors. As a result, in today's healthcare environments, where the primary goal is to improve patient safety and quality of care [10], healthcare professionals play an important role in patient safety. The study's goal is to assess the frequency and accuracy with which healthcare workers perform the process of verifying patient identity during common everyday tasks on patients, as well as to design a proposed patient safety verifying identity program based on their training requirements for healthcare workers at Al-Najaf Teaching Hospital. The following is a research

question: The study was carried out in order to answer the question, "What is the prevalence of patient ID errors in clinical care?"

METHODS

Study design

A prospective, observational study of healthcare workers' performance in everyday patient-related tasks was conducted. The cross-sectional study was conducted at Al-Najaf Teaching Hospital in Iraq from March to May 2022 to assess the frequency and accuracy with which healthcare workers verify patient identity before performing common tasks.

Participants and study sample

The study included 140 healthcare workers from the targeted hospital. Participants must also have worked in healthcare for at least six months. This was put in place to collect data from people who have worked as healthcare workers in the past. Participants can describe their clinical experiences and challenges up to the time of the study. In Al-Najaf Teaching Hospital, 140 healthcare workers were chosen using a non-probability, convenience sampling technique from male and female medical wards, surgical wards, medicine departments, orthopaedic clinics, dermatology clinics, neurology clinics, private departments, pediatric departments, radiology and ultrasound departments, ear, nose, and throat departments, urology departments, and surgical operation rooms. All participants are employees of Al-Najaf Teaching Hospital, which employs 500 people. The study's description is depicted in Figure 2.

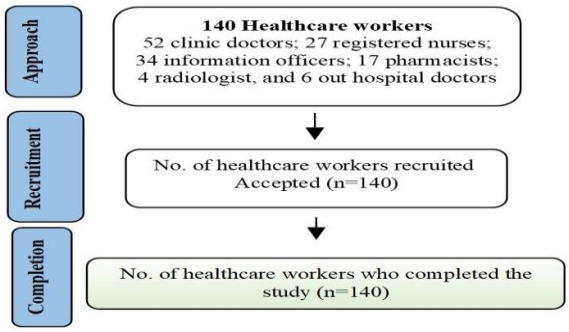

Figure 2: Flowchart of the study.

Data collection

For the current study, the researcher created a semi-structured questionnaire. It included evaluations of participants' attitudes toward patient identification, such as gender, department, degree of recognition, and individuals who do not perform the identification process. Data was collected over a 50-day period to allow participants to respond conveniently.

Ethical considerations

The Al-Najaf Health Directorate and the district hospitals' research committees all approved the study protocol. The study was approved by an institutional review board, and all participants provided informed consent before taking part. Participation was entirely voluntary. The study's goal, participants were told, was to evaluate how expert healthcare workers use patient identification to perform common tasks. The data were kept in a secure location, with only the researcher having access to them. Furthermore, during the analysis, only the questionnaire number and anonymous codes were captured and separated from the main data. Healthcare workers were unaware that the study's goal was to look into the patient identification process.

Data analysis

The data analysis process entailed using Statistical Package for Social Sciences (SPSS) computer software (SPSS Inc., Chicago, IL, USA) to categorize information in graphs and charts that SPSS created. Descriptive statistics were used to present the data and patterns of response to the different questionnaire items; categorical variables were presented as frequency and percentage.

RESULTS

Table 1 summarizes the main findings of the study. The study included 140 healthcare workers: 52 clinic doctors, 27 registered nurses, 34 information officers, 17 pharmacists, 4 radiologists, and 6 hospital doctors. The majority of the participants (62.1%) were females, and the majority of the participants (28.6%) worked in the operating room. Furthermore, the majority of participants (82.1%) did not ask patients for their name and DOB, indicating a failure to recognize patient identification (Figure 3), and clinic doctors were the majority of participants who did not perform the identification process (37.1%) (Figure 4).

DISCUSSION

Many studies on patient safety have been conducted around the world, and they all raise serious concerns. Healthcare workers participate in the service process to assist with patient safety reporting and to address problems that arise in Iraq. Incidents involving patient safety in hospitals will have a negative impact on hospitals, staff, and patients as service recipients. The result is a decrease in public trust in health-care services. Patient identification error was defined as failure to complete a task assigned to that patient, with or without expressing that the patient's identity differed from the labels or identity band (ID) tape brought into the room. Healthcare workers in hospitals make mistakes as well. Individual factors such as healthcare workers oppose quality of care and patient safety. A patient safety program must be implemented by healthcare workers to prevent patient injury and identification [11].

The current study included a total of 140 healthcare workers. More than half of the participants were female; roughly one-third worked in the operations room; and more than three-quarters were not asked for their name or date of birth.

Table 1: Description of the participants and their attitude on the patient identification process

Variables		*n* (%)
Gender	Male	53 (37.9)
	Female	87 (62.1)
Department	Medicine department	17 (12.1)
	Surgery department	14 (10)
	Orthopedic clinic	29 (20.7)
	Dermatology clinic	7 (5)
	Neuro Clinic	4 (2.9)
	Privat department	8 (5.7)
	Pediatric department	6 (4.3)
	Rheumatology	8 (5.7)
	Radiology and ultrasound	2 (1.4)
	ENT	2 (1.4)
	Urology department	3 (2.1)
	Operation room	40 (28.6)
Recognize identification	The patient has been identified (ask for name and DOB)	25 (17.9)
	Patient has not been identified (don't ask for name and DOB)	115 (82.1)
A person who doesn't perform the identification process	Clinic doctor	52 (37.1)
	Registered nurse	27 (19.3)
	Information officer	34 (24.3)
	Pharmacist	17 (12.1)
	Radiologist	4 (2.9)
	Out hospital doctor	6 (4.3)

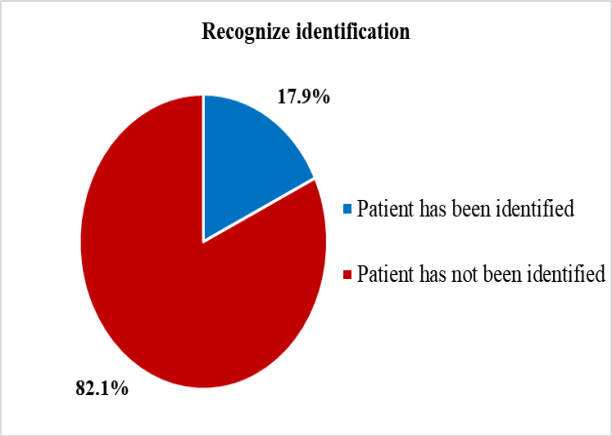

Figure 3: Failure rate of unrecognized patients' identification.

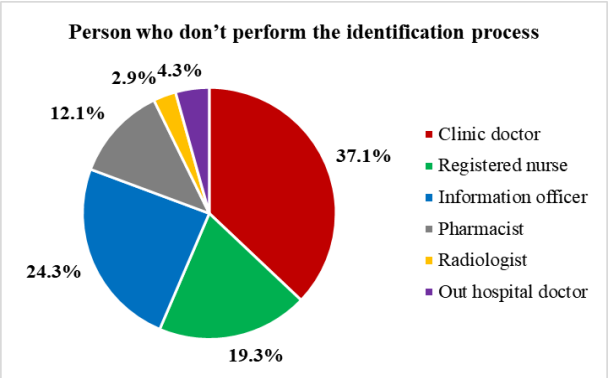

Figure 4: Category of respondents not performing patients' identification.

The current study discovered that the majority of participants (more than three-quarters) did not verify patient identity and ordered tests on the wrong patient. These findings support the findings of Henneman et al. (2010), who found that patient identification errors are common, and that more than 90% of participants did not verify patient identity and ordered tests on the wrong patient when confronted with an unexpected patient identity error. Furthermore, the clinic doctor was among the majority of participants, with more than one-third not performing the identification process [5]. The World Health Organization (WHO) suggests several strategies that all health organizations should consider in order to ensure proper patient identification, such as emphasizing the responsibility of health professionals to verify patients' identities before providing care or treatment. It encourages the use of at least two identifiers (e.g., name, date of birth) to verify the patient's identity following admission or transfer to another hospital or other care facility and before care is provided. The document also suggested standardizing patient identification methods and implementing technical resources within the same health institution. It suggests establishing a clear protocol for identifying patients with the same name. It encourages patients to participate in all stages of the identification process. It is critical to implement training on the proper procedure for verifying a patient's identity, as well as guidance to the workforce on the importance and relevance of proper identification [12].

Study Limitations

The participants chosen may not have been a large enough sample size to be generalized to the larger population. It is unclear whether the results can be compared to other hospitals, but patient identification is clearly inaccurate across the country. It was also possible that some of the participants lacked the necessary experience. However, because medical ethics prohibited the inclusion of errors in a clinical

setting, the researcher resorted to studying patient identification errors.

Conclusion

Patient ID verification is critical at every stage of clinical care. According to the findings of the study, many healthcare workers do not verify the patient's identity before performing a task. In total, more than three-quarters of the subjects were unable to detect patient identification. Although patient identification errors frequently result in serious adverse events that can be avoided with better training, better use of technology may improve the way workers verify a patient's identity, and more research into these methods is needed.

Recommendation

The variability of identification procedures, as well as the procedure's inaccuracy even after completion, suggests that modalities other than training and exhortation are required to reduce patient inaccuracy. These modalities treat patients and frequently serve multiple functions, such as facilitators, trainers, mentors, role models, and evaluators. Where possible, consider implementing automated systems (e.g., electronic order entry, bar coding, radiofrequency identification, and biometrics) to reduce the possibility of identification errors. It also suggests that the World Health Organization's strategies be considered in order to avoid patient identification errors [13].

Acknowledgment

The author would like to thank the healthcare staff at Al-Najaf Teaching Hospital for their cooperation and assistance in carrying out the study.

Conflicts of interest

The author declares no conflict of interests.

Funding

There are no sources of funding to declare.

Data sharing statement

Data will be available after a reasonable request.

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