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Compliance Rate of Adequate Filling of Radiology Request Forms in a Lagos University Teaching Hospital

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Abstract: Radiology request forms are essential communication tools used by hospitals and doctors referring patients for radiological investigations, however, their importance is highly underestimated. The clinician is required to give brief clinical history by filling the reason for referral as this helps radiologists to better understand the patient's condition; so that the required expertise can be utilized. The aim of the research is to evaluate the adequacy of patient data and clinical information filled in the request forms sent to the Radiodiagnosis Department by the referring clinicians. Descriptive study design was used to find out the compliance rate of filling radiology request forms as indicated by referring physicians. The average number of request forms received on a daily basis in the Radiodiagnosis department of Lagos University Teaching Hospital (LUTH) was 62. A non probabilistic Quota sampling method was used to select 300 request forms over a period of 3 months which are representation of variety of examinations from different departments within LUTH. The study revealed a relatively high number of uncompleted fields in the radiology request forms in LUTH.

Key words: Patients · Communication tools · Completion · Evaluate

INTRODUCTION

Radiology request forms are essential communication tools used by hospitals and doctors referring patients for radiological investigations. However, their importance is highly underestimated [1, 2]. The Royal College of Radiologists has periodically issued guidelines regarding completion of radiology request forms, one of which states: Requests should be completed accurately and legibly to avoid any misinterpretation. The clinician is required to state the reason for referral as this helps radiologists to better understand the patient's condition so that the required expertise may be utilized to proffer the necessary information to aid appropriate patient management [3]. In a large percentage of patients, radiology request forms play a pivotal role in both diagnosis and treatment, central to this is the adequate completion of the radiology request forms. The most junior member of the team often completes the request forms but the report is usually read by the most senior member of the clinical team in taking patients management decisions [3, 4].

Choosing the appropriate investigation at the right time and providing correct biographic and clinical information of the patient is the responsibility of the clinician or medical practitioner requesting for the radiological investigation [3, 5, 6]. How much of such inadequately filled request forms are witnessed in the local practice is a gap this study is set to fill.

Filling of the request forms adequately cannot be overemphasized as it reduces the number of unhelpful radiographic examinations performed and aids concise radiological diagnosis. It also indirectly helps to reduce the investigation time and improve the quality of service offered to the patients [3, 7]. It also helps in the justification for radiation exposure to reduce radiation dose to the patient [8, 4, 9].

No standard format for radiology request forms is available, different organisations use their own personalised version [10, 11]. A review of different studies has shown some frequent and common fields on radiology request forms of different organisations. This can be said to be the minimum standard for radiology referrals unique to every patient is employed.The prevalence of inadequately completed radiology request form is considered widespread [2,5,11] thus requiring a quantitative study of our local practice.

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MATERIALS AND METHODS

It is a retrospective descriptive study design to measure the compliance of referring clinicians in adequate completion of the radiology request forms. The study covers request forms from various departments including Accident & Emergency, Children's Emergency, Outpatients clinics and the Wards in the Lagos University Teaching Hospital.

The average number of request forms received on a daily basis in the Radiodiagnosis department of LUTH, was calculated as 40 (General and special X-ray procedures), 19 (Ultrasound) and 3 (Computed tomography) totaling 62. Thus, a non probabilistic Quota sampling method was used to select 300 request forms over a period of 3 months which are representation of variety of examinations from different departments within LUTH.

Data Collection and Technique: Forms were accessed and assessed after processing by the clerks at the booking desk. Each form was assessed for completeness of the fields. A field was taken completed when something was written in the field. This was done to remove any subjective bias regarding appropriateness of what was written. A blank field was given a 0 (zero) score while a completed field was given a score of 1(one).

Sixteen fields were assessed in each form. Thus each form had a maximum score of 16. A database of the collected forms was created, noting which of the various fields were adequately completed.

Data Analysis: Each completed request form was entered as a new record and all the records were collated and analyzed using Epi info statistical software, version 3.5.1 with the intention of measuring the rate of occurrence of blank fields in the forms.

RESULTS

Table 1 shows distribution of scores in terms of frequency and percentage for each field on the request form. The highest filled are surname, other names and examination requested (300%) and least filled is relevant previous operations 10(3.3%).

Table 2 shows distribution of imaging modality requests in radiodiagnosis department in LUTH Conventional x-ray is the most frequently requested 107(35.7%) and least is computed tomography 94(31.3%).

Table 1: Distribution of scores in terms of frequency and percentage for each field on the request form

Field	Unfilled Fields	Filled Fields
Hospital Number	23(7.7%)	277(92.3%)
Surname	None	300(100%)
Other names	None	300(100%)
Age	6(2.0%)	294(98.0%)
Sex	1(0.3%)	299(99.7%)
Ward/Department	0.5(1.7%)	295(98.3%)
Address	261(87.0%)	39(13.0%)
Date	24(8.0%)	276(92.0%)
Referring clinician/Consultant	1(0.3%)	299(99.7%)
Provisional diagnosis	30(10.0%)	270(90.0%)
Relevant previous operations	290(96.7%)	10(3.3%)
Examination requested	None	300(100%)
Clinical notes	39(13.0%)	261(87.0%)
Name of the that filled the form	4(1.3%)	296(98.7%)
Signature	7(2.3%)	293(97.7%)
Mobility of Patient	238(79.3%)	62(20.7%)

Table 2: Distribution of Imaging Modality Requests in Radiodiagnosis Department in LUTH

Imaging Modality	Frequency
Computed Tomography	94(31.3%)
Ultrasonography	99(33.0%)
Conventional X-ray	107(35.7%)

Table 3: Distribution of the departments referred to radiodiagnosis department in LUTH

Department	Frequency
A&E	103(34.3%)
OP	62(20.7%)
Wards	60(20.0%)
Others	80(26.0%)

A & E = Accident and Emergency, OP = Out-Patient clinic

Table 3 shows distribution of the departments referred to radiodiagnosis department in LUTH, majority of the patients were referred from the accidents and emergency unit103 (34.3%) of the hospital while many were from the outpatient clinic 62(20.7%) and wards 60(20.0%).

DISCUSSION

This study revealed a relatively high number of uncompleted fields in the radiology request forms. None of the cards analyzed was completely filled; names of patient and examination requested were completely filled. This compares closely with another study where only 4% of the 200 request forms reviewed were completely filled [5].

The commonest blank fields were relevant previous operation (96.7%) and mobility status of the patients (79.3%). Previous operations undertaken by a patient should form part of additional information to the clinical details supplied by the referring clinician while mobility status of patient prepares the radiographer ahead for the selection of an appropriate technique. This however, contradicts the study where mobility status of the patient was blank in 22.0% of the forms [10].

The field for provisional diagnosis was blank in 10% forms. Before a clinician requests any test, there must be a question in his or her mind, which the test may answer. Many tests have to be individualised to answer such questions. For example, a barium swallow study will be performed differently if the question is regarding motility of the oesophagus or mechanical obstruction in the oesophagus [2].

Referring doctor's name and signature were missing in four (1.3%) and seven forms (2.3%) respectively. The doctor should take the final responsibility in asking for an investigation. This study revealed that clinical notes were missing in 13% of the forms, which corroborates well with study done by other researchers where clinical notes were missing 14% of the forms [8].

According to the result of analysis, date of referral was missing in 8% of the request forms; this may not appear very relevant to the examination or reporting. However, in case of complaints by patients or the referrer about the delay in performing the tests and for medico-legal reasons this becomes important.

Comparing this study with other studies [2, 5, 10] patient location shows a wide disparity where it is missing in 21% of the forms as against 1.7% seen in our study. The names of the clinicians in charge, sex and age of the patients were given in most cases, 99.7%, 99.7% and 98.0% respectively.

Most of the previous studies had no statistical record for the completion of patient's address field except Depasquale R *et al* [4] with 77% of the forms correctly filled with patient's full address. This was in contrast with the findings obtained in this study where patient's address field was not completed in 261 forms (87%) of the 300 forms analyzed.

CONCLUSION

Evaluation of the radiological request form currently in use at the LUTH revealed the existence of important omissions and mild compliance with filling of fields requested by referring clinicians.

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