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Research Article

Adequacy of clinical information on radiology request cards from medical assessment unit. Clinical Audit

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Abstract

The easiest and best way of communication between the clinician and radiologist is the radiograph request form. The physician seeking answers from the radiologist should give their questions and relevant clinical data on the request form. Such a dialogue helps in diagnosis and patient management effectively [1]. 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 [2].

Problem statement

Filling in 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 [2,3]. It also helps in the justification for radiation exposure to reduce radiation dose to the patient [4-6].

In our practice, we have noticed that radiology request cards sometimes do not contain enough information to aid to better radiological report. There is evidence that inadequate clinical information is associated with an increased level of inaccurate reports [3-5]. Accurate clinical information is more likely to assist the radiologist or reporting radiographer in constructing a report, which in turn will help the referring practitioner with the management of the patient.

Objectives

The objective is to investigate the current practice of the adequacy of clinical information provided by health care providers at the admission unit.

Standard

According to the RCR guidelines and the locally agreed standard:

All submitted radiology request forms should contain the following information:

- The clinical background including relevant history, relevant examination findings and/ or relevant investigations' reports
- The question to be answered;
- The name and signature of the requesting doctor;
- The contact number (pager or extension number) of the requesting doctor.

Methodology

150 radiology request forms have been selected in the period between October 2013 and December 2013. The sample included X-ray, CT scan and Ultrasound scan requests with 50 cards for each study request. The forms have been examined against the standard of filling in all the form's areas. Data items collected retrospectively were: 1) clinical information provided in form of brief clinical history, brief clinical examination findings and/or other investigation findings 2) question to be answered and 3) identifier for the person making the request. We counted all provided information without trying to see whether it was appropriate or not to avoid interpretation bias.

Results

In total, there was relatively low interest in providing contact detail on the cards. However, identifiers of the person requesting the study achievement was 100%. Clinical information in terms of brief history and relevant clinical examination were deficient generally in all request forms. Table 1 is summarizing the results of the audit themes in percentage.

A more detailed analysis of the results showed that clinicians making requests tend to provide less information on X-ray request forms than ultrasound scans and CT scans. 22% of X-ray cards didn't contain request maker contacts. This is fairly similar to 20% in CT scan

Table 1. Evidence of quality and percentage achieved against standard.

Evidence of quality	Standard	January 2014
Identifier of the person making the request	100%	100%
Contact (pager or extension number)	100%	79.3%
Brief relevant history	100%	82.7%
Brief examination and/or investigation finding	100%	90.7%
Provisional diagnosis and/or question to be answered	**100%**	**90.0%**

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Table 2. Evidence of quality per type of radiological examination in percentage.

Evidence of quality	X-Rays	Ultrasound scans	CT scans
Identifier of the person making the request	100%	100%	100%
Contact (pager or extension number)	78%	80%	80%
Brief relevant history	74%	84%	90%
Brief examination and/or investigation finding	84%	92%	96%
Provisional diagnosis and/or question to be answered	78%	94%	98%

request forms. However, providing provisional diagnosis and/or the question to be answered by the study was deficient in 22% in X-ray request forms as compared to only 2% in CT scan forms. We concluded that doctors' practice in providing the needed information varies with different radiological studies. Table 2 provides percentage of completed forms in each theme per type of radiological study.

Discussion

A multi-disciplinary approach to patient management is based on adequate communication between the various team members in order to provide the patient with the best possible service. Radiology request forms are essential communication tools used by doctors referring patients for radiological investigations. Their importance, however, as can be seen from the results elucidated by our audit, is highly underestimated [7].

Previous audits around the same area showed worldwide deficiency in filling radiology request forms appropriately [7,8]. Different audits reported different themes according to the problems seem to be the most important in different clinical settings. Some audits were concerned about patient's details and some about referring ward or area to be examined. However some were interested more in adequacy of provided clinical information in relation to aiding radiological study's interpretation and reporting [8].

In our project, five themes have been audited. One hundred fifty request cards (including X-ray, CT scan, and ultrasound) have been studied. In all cards the name of the health care provider making the request was provided, but the contact number has been provided in only 79.3%. That means it will be difficult for the radiology department to contact the health care provider making the request if needed. Around 82.7% of cards contained relevant history and 90.7% contained relevant clinical examination. The results do not reflect poor practice, but obviously far away from optimal. Our results were not different from the usual figures of previous similar audits [7,8]. They highlighted the decreased interest of clinicians to provide adequate information, which would help for better reporting, and eventually better patients' care.

Dissemination of results and recommendations

By the end of our audit cycle we recommended that we should arrange for a meeting between the Medical Assessment Unit staff and representatives of the radiology department. That was to discuss how we could improve current practice. We also recommended that results and recommendations of this audit is to be added to the induction topics for doctors new to the Medical Assessment Unit [9]. We also contacted the Information and Technology (IT) department to try to add e-requesting of radiological studies to our system. The suggestion described requests not to allow submission unless all needed fields completely filled in.

Changes implemented

What actually happened is that we managed to arrange for the meeting. The recommendations of that meeting supported our trail of adding e-requests for radiological studies to the system. The recommendations have been raised to the hospital managers and after few weeks got approved. Now we have e-requesting for all radiological studies with important fields starred so that requests won't be submitted without those fields completely filled in [10,11].

Learning points

1) Adequacy of clinical information on radiological study request is very important, though it is underestimated.

2) Doctor's attitude towards filling in the request cards varies.

3) Conducting simple audits might well help in changing the practice no matter how junior the auditors are, which will all be in favour of patients' care.

References

1. Irurhe N K, et al. (2012) Compliance Rate of Adequate Filling of Radiology Request Forms in a Lagos University Teaching Hospital. *World Journal of Medical Sciences* 7: 10-12.
2. The Royal College of Radiologists (2007) Making the best use of clinical radiology services: Referral guidelines. Sixth Edition. London 3-9.
3. Dhingsa R, Finlay BL, Robinson GD, Liddicoat AJ (2002) Assessment of agreement about the delay in performing the tests and whether a radiation exposure is justified. British Comparing this study with other studies. *Journal of Radiology* 75: 136-139
4. Triantopoulou Ch, Tsalafoutas I, Maniatis P, Papavdis D, Raios G, et al. (2005) Analysis of radiological examination request forms in conjunction with justification of X-ray exposures. *Eur J Radiol* 53: 306-311. [Crossref]
5. Berbaum KS, el-Khoury GY, Franken EA Jr, Kathol M, Montgomery WJ, et al. (1988) Impact of clinical history on fracture detection with radiography. *Radiology* 168: 507-511. [Crossref]
6. Walker A, Tuck JS (2001) Ionising Radiation (Medical Exposure) Regulations: impact on clinical radiology: *British Journal of Radiology* 74: 571-574
7. Depasquale R, Crockford M (2005) Are radiology request forms adequately filled in. *Malta Medical Journal* 17: 04
8. Afolabi OA, Fadare JO, Essien EM (2012) Audit of completion of radiology request form in a nigerian specialist hospital. *Ann Ib Postgrad Med* 10: 48-52. [Crossref]
9. Rickett AB, Finlay DB, Jagger C (1992) The importance of clinical details when reporting accident and emergency radiographs. *Injury* 23: 458-460. [Crossref]
10. Berbaum KS, Franken EA Jr, Dorfman DD, Barloon TJ (1988) Influence of clinical history upon detection of nodules and other lesions. *Invest Radiol* 23: 48-55. [Crossref]
11. Board of the Faculty of Clinical Radiology, The Royal of the oesophagus or mechanical obstruction in the College of Radiologist 2000. A Guide to Justification oesophagus for Clinical Radiologists 5th ed London.