IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 15, Issue 6 Ver. VII (June. 2016), PP 71-74
www.iosrjournals.org

An Assessment of The Adequacy of Filling of Radiology Request Cards in A Teaching Hospital in Makurdi , North Central Nigeria

Mohammad H[1], Iortile JT[1], Ogbeifun O.J[2], Ikubor JE[3] and Eje-Ejum EO[4], Adekwu A[5], Annongu IT[1]

[1]*Department Of Radiology, Benue State University Teaching Hospital, Makurdi, Benue State, Nigeria*
[2]*Department Of Surgery, Benue State University Teaching Hospital, Makurdi, Benue State, Nigeria*
[3]*Department Of Radiology, Delta State University Abraka*
[4]*Department Of Physics And Astronomy, University Of Nigeria Nsukka, Enugu State, Nigeria*
[5]*Department Of ENT, Benue State University Teaching Hospital, Makurdi, Benue State, Nigeria.*

Abstract*: A review of all consecutive request cards received at the x-ray unit over a period of 8 months to assess the completeness of filling of the cards, details provided, use of abbreviations and the usefulness of clinical information given to the radiologist. The cards came from different departments, wards, outpatient clinics and specialists' clinics of the hospital. The data was entered using SPSS version 13 statistical software and analyzed descriptively and results presented in tables and figures.The type of examination requested ranged from 0.61 to 25.80%,the Biodata averaged for complete information was 79.1% and 20.9% for incomplete, whereas the clinical information data was averaged 99.6% complete and 0.4% incomplete, previous X-ray was complete with a percentage of 2.5.*

Keywords: *radiology, request cards, audit*

I. Introduction

Radiology request card is an important tool in the patent's clinical evaluation and management. It is a useful means of communication between a referring physician and the Radiologist/Radiographer. The card is a clinical document that states what investigation/procedure that is to be done, whom it is to be performed on and why the investigation/procedure is necessary.

An inappropriately filled request card may mislead the reporting radiologist. This is because making a correct image interpretation depends on the background clinical information provided in the request card. Also, a defective request may lead to a wrong investigation hence exposing the patient to unnecessary radiation; and waste of patient's time and money. Indeed, it has been documented that there is a correlation between the quality of radiology requisition and the clinical outcome patients in the intensive care unit[1].

Although there is no universal template for radiology request card, it is expected that a standard card should conform to the guidelines by the Royal College of Radiologist and Ionizing Radiation (Medical Exposure) Regulations [2,3].

An ideal radiology investigation request card should contain name, age, hospital number, gender, ward/clinic, address, imaging modality requested, clinical information, radiology number, consultant in charge and Doctors signature among others. In the light of the above, the adequacy of the request card would enable the radiologist to have a better report which indirectly affects positively patient's management.

Defective filling of radiology request cards is a widespread problem faced by radiologists/radiographers from different parts of the world [4-12]. Though no study has been done in our locality, we regularly encounter incompletely filled cards in our every day practice. It is on the basis of this that we attempt to audit the adequacy of completion of request forms received at radiology department of the Benue State University Teaching Hospital, Makurdi, Nigeria.

II. Methodology

A total of 163 consecutive request cards were gathered and reviewed over a period of 8 months(March to October 2015),to assess the completeness of filling of the cards, details provided and the usefulness of clinical information given to the radiologist. The cards came from different departments, wards, outpatient clinics and specialists' clinics of the hospital. The data was entered using SPSS version 13 statistical software and analyzed descriptively and results presented in tables and figures.

Table 1: Examination Requested

S/NO	Examination requested	Number	Percentage (%)
1	HSG	42	25.80
2	MCU	03	1.84
3	IVU	18	11.04
4	CCU	05	3.07
5	RUG	04	2.45
6	Barium Studies	04	2.45
7	Antegrade(tube)Pyelography	01	0.61
8	Distal Colostogram	02	1.23
9	CT Brain	26	15.95
10	CT Chest	02	1.23
11	Abdominopelvic CT	01	0.61
12	Orbit CT	01	0.61
13	Neck CT	02	1.23
14	Upper limb CT	01	0.61
15	CXR	26	15.95
16	PNS	05	3.07
17	Hip	03	1.84
18	Mandible	01	0.61
19	Mammography	01	0.61
20	Shoulder	02	1.23
21	Lumbosacral Spine	07	4.29
22	Pelvis	01	0.61
23	Hand	01	0.61
24	Knee	02	1.23
25	Neck	01	0.61
26	Abdomen	01	0.61
	TOTAL	**163**	**100**

Table 2: Biodata Information

Biodata Information	Complete/Adequate Frequency (%)	Incomplete/inadequate Frequency (%)	No information Frequency (%)	Total Frequency (%)
Name	163(100)	**NIL**	**NIL**	163(100)
Age	155(95.1)	8(4.9)	**NIL**	163(100)
Gender	137(84.0)	26(16.0)	**NIL**	163(100)
Unit number	131(80.4)	32(19.6)	**NIL**	163(100)
Ward	118(72.4)	45(27.6)	**NIL**	163(100)
Address	70(42.9)	93(57.1)	**NIL**	163(100)
Total	774(79.1)	204(20.9)	**NIL**	978(100)

Table 3: Clinical Information

Clinical information	Complete/Adequate frequency (%)	Incomplete/inadequate frequency (%)	No information frequency (%)	Total frequency (%)
Part of body requested for	**163(100)**	**NIL**	**NIL**	**163(100)**
Clinical information given	**162(99.4)**	**1(0.6)**	**NIL**	**163(100)**
Clinical Assessment	**162(99.4)**	**1(0.6)**	**NIL**	**163(100)**
Total	**487(99.6)**	**2(0.4)**	**NIL**	**489**

Table 4: Past radiological and surgical history

Information field	Complete/adequate frequency (%)	Incomplete/Inadequate frequency (%)	No information frequency (%)	Total (%)
Previous X-ray	**NIL**	**NIL**	**NIL**	**NIL**
Previous X-ray NO	**4(2.5)**	**NIL**	**NIL**	**4(100)**
Previous film to be sent with card	**NIL**	**NIL**	**NIL**	**NIL**
Previous operation	**NIL**	**NIL**	**NIL**	**NIL**

III. Results

A total of 180 request cards were received during the study period. However, 17 were excluded because they were not made on the request card of the hospital. Only 163 request cards satisfied the inclusion criteria.
All the request cards had surname and other name(s). Complete/adequate frequency on age, sex, unit number, ward and address were 155(95.1%), 137(84.0%), 131(80.4%), 118(72.4%), 70(42.9%) respectively. While incomplete/inadequate frequency were 8(4.9%), 26(16%), 32(19.6%), 45(27.6%), 93(57.1%) in the same sequence (Table 2).

One hundred and sixty three (100%) mentioned the specific part of the body to be investigated on the request card. Clinical information and clinical assessment were 99.4% complete/adequate and had 0.6% incomplete/inadequate for both respectively (Table 3). On filling of the space allotted to past surgical and radiological history on the request card, only 4(2.5%) had complete and adequate information on history of previous X-rays of the request card (Table 4).

IV. Discussion

Defective filling of request cards is a global problem[4-12] . This maybe a reflection of the fact that many medical officers including those in the accident and emergency units; and also those in the peripheral hospitals do not fully appreciate the importance of request cards as means of communication between them and the radiology department. Indeed, many of the medical practitioners are not aware of the scope of several other sub-specialties hence the inadequate views or in some cases inappropriate request made. This study of 163 request cards showed a defective filling of about 57.1%. Reports from different parts of the country and elsewhere showed figures ranging from 10.9 -96%[6, 7,8,11].

The biodata and clinical information are supposed to guide the radiologist on some diseases while trying to report the films. In our study, the age, gender and the unit number of the patients were given as 95.1%, 84.0% and 80.4% respectively. The trend is almost similar to that reported in two separate studies by other workers[4, 12].

Many poly-traumatized patients with maxillofacial fractures were often viewed with low index of suspicion and routine posterior-anterior and true lateral radiographs were grossly inadequate.This might sometimes lead to a recall of the patient and same may also apply when the referring clinician cannot be contacted for further discussions about the patient.Our study shows that surname and other names were completely filled.This supports the findings by other workers[4,6,8]. In contrast, Akinola *et al* reported that 1.4% of the cards in their study did not have other names[12]. The address space on the request card is important with respect to tracking of the patient and also the prevalence of disease in a particular locality. About 42.9% of the request forms in our study have complete and adequate information regarding the address of patients. However, other studies reported figures of 1.7% and 21% respectively[4].

In addition to the address, the ward or clinic where the patient is coming from may give the radiologist a clue to the diagnosis and may even help the radiographer to determine the appropriate radiological exposure to doses. Previous works have demonstrated that inadequate clinical information is accompanied with increased level of inaccurate report; however if it is adequate and accurate the radiologist report are better which indirectly affects positively patient's management[9]. Majority of the request cards were for HSG and brain CT which are relatively expensive and have unlimited specificity and sensitivity compared to other radiological investigations like lower extremities. The few requests from ENT and Maxillofacial units in our study may not be unconnected to the fact that at the time of this study, the specialist in these areas were just visiting consultants.

Our study has documented that the spaces for past information about previous surgery, previous radiographs to be sent to the department were also not filled at all in the request card. These findings support the works by other workers[8,10]. The implication of not providing previous radiographs may lead to a repeat of the same examination and thus over exposure to ionizing radiations. We conclude that our study shows a poor compliance with the standard of filling of request card. Raising awareness of this and the need for compliance with filling of request cards can be achieved during undergraduate lectures in clinical radiology and also during CME/CPD session. In addition to all these measures, we suggest that worse request card/cards containing meaningless information should be rejected by the radiologist/radiographers.

References

[1]. Cohen MD,Curtin S,Lee R:Evaluation of Quality of Radiology Requisitions for Intensive Care Unit Patients.Academic Radiology;2006;13(2):236-240
[2]. London: The Royal College of Radiologists. Good Practise Guide for Clinical Radiologists; 2012; Pp.2-8
[3]. Analysis of radiological examination request forms in conjunction with justification of X-ray exposures Department of Health. The Ionizing Radiation (Medical Exposures) Regulations 2000,with supplementary guidance on good practice(http://www.doh.gov.uk/irmer.htm);2000.
[4]. Irurhe, .N.K., Sulaymon, F.A., Olowoyeye O.A. and Adeyomoye A.A.O. Compliance Rate of Adequate Filling of Radiology Request Forms in a Lagos University Teaching Hospital. World Journal of Medical Sciences; 2012; 7 (1): 10-12.
[5]. Adebayo SB,Awosanya GOG, Balogun BO and Osibogun A.Multi Assessment of Radiology Request Form Completion in South-West Nigeria. Nigerian Hospital Practice 2009; vol.3, No 6.
[6]. Mathew G. A, Chigozie N I, Aisha W, Dlama ZJ, Geofrey L, Abasiama O and Esther M. Evaluation of the Adequacy of Completion of Radiology Request Forms in a Tertiary Hospital, Northeast, Nigeria. The Pacific journal of Science and Technology;2015; Volume 16.Number 2.
[7]. Despasquale R, Crockford MP. Are Radiology Request form adequately filled in?An adult assessing local practice. Malta Medical Journal;2005;17(4):36-38
[8]. Afolabi O.A., Fadare J.O.and Essien E.M: Audit of completion of radiology request form in a Nigerian specialist hospital. Ann Ibd.pg.Med 2012.Vol.10, No.2 48-52
[9]. Duncan K and Barter S.Clinical Information from A&E.Adequacy of clinical information from accident and emergency (A&E)

Department. The Royal College of Radiologists;2008; Audit &Research
[10]. Danfulani M and Musa M.A(2015).Radiology Request Forms(RRF)Inadequately completed; The case of Tertiary Health Centre in North West Nigeria.Int J Clin and Biomed Res.2015;1(2):1-4
[11]. Akintomide A.O,Ikpeme A.A,Ngaji A.I,Ani N.E,Udofia A.T.An audit of the completion of radiology request forms and the request practice.J Family Med Prim Care.2015 Jul-Sep;4(3):328-330
[12]. Akinola R,Akinkunmi M,Wright K,Orogbemi O.Radiology request forms:are they adequately filled by clinicians? The Internet Journal of Radiology.2009 volume 12 Number 1.