

**ASSESSMENT OF THE ADEQUACY FILLING OF RADIOLOGY REQUEST FORMS (RRFs) BY REFERRING CLINICIANS IN ALEX EKWUEME FEDERAL UNIVERSITY TEACHING HOSPITAL, ABAKALIKI, EBONYI STATE, NIGERIA**

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**ABSTRACT**

Radiological investigations are often essential in the management of patients. The request forms act as a medium between the managing Physician and the Radiologists who is often required to make significant input. Failure to properly complete these forms may therefore result in misdiagnosis and possible mix-up of the forms. We therefore, undertook to document the extent to which radiological request forms are properly filled. Four hundred and eighty radiological request forms which had already been filled out by doctors at the Alex Ekwueme Federal University Teaching Hospital between December 2023 and February 2024 were randomly selected for the study. The forms came from different departments of the hospital and for different radiographic modalities including conventional X-ray, Computed Tomography, Fluoroscopy, Magnetic Resonance Imaging and others. The forms were assessed for contents, legibility, completeness of the fields, and adequacy of the information supplied. The data collated were entered using SPSS version 13 statistical software. The results were expressed in frequencies and percentages and then presented in tables and figure. Out of 480 request forms selected for the study, only 450 were legible while 30 were illegible. Many critical fields are missing in the RRFs. Such field include Clinical condition of the patient, the provisional diagnosis, Name of the referring Doctor and the phone numbers of the referring Doctor, the Consultant in charge and the patient. Only the Surname of the patients was fully entered on all the 450 legible forms that were analyzed. All other field were filled to varying percentages or not filled at all as follows: Ward/Clinic-400(88.8%), Hospital Number-395(88%), Date of request-433(96.2%), Age of patient-445 (98.9%), Sex-43 (96%), X-ray number-0(0%), Surname of patient-450(100%), Other name-442(98.2%), Occupation 360 (80%), Address-395(87.8%), Ambulatory status (Walking case/Chair/ Trolley theatre Portable), 9(2%). Cassette Size 0(0%), Part of the body-429(95.3%), Examination required-444(98.6%), History of past operation-0(0%), History of Previous X-ray-0(0%), Previous X-ray Number-0(0%), LMP-362(79.5%), Exposure factors (View/KVP/MAS)-0(0%), Doctors Signature-369(82%), Name of consultant-387(86%), Radiologists Report-0(0%). Radiological request forms are not always filled out properly. Only the Surname of the patient was consistently filled while were vacant in all the forms.

**KEYWORDS:** radiology, request forms, clinician.

**INTRODUCTION**

Delivery of quality health service is the ultimate goal of every health system. By this is meant the provision of health care services that meets the need of the patient in terms of effectiveness, safety and affordability.<sup>[1]</sup> Very much needed to achieve this are well articulated policies, structures, personnel and funding. Undoubtedly, availability and quality of different health professionals in the system, working collaboratively and in synergy is key to the intended outcome.<sup>[2]</sup> This is so irrespective of the focus of the intended health service be it promotive, preventive, curative or rehabilitative. In arriving at the

all-important correct diagnosis of a disease condition, the clinician often requires the input of other professionals in the health sector including but not limited to laboratory scientist, optometrist, radiographer and the radiologist to mention but a few.<sup>[3]</sup> For optimum result, the ideal situation will be for all the professionals to sit together to assess and review the patient as they come.<sup>[4]</sup> For many reasons including time, space, available personnel and exigencies of duty, this ideal situation is not feasible.<sup>[5]</sup> The professionals thus need a standardized, well established, effective, mutually rewarding and respectful means of communication and engagement of each

other.<sup>[6]</sup> Between the Clinician and the Radiographer as well as the Radiologist, the Radiology Request Form (RRF) serves that purpose.

Especially in the curative aspect of health delivery, proper and correct diagnosis of disease condition is key to all subsequent measures aimed at restoration of health and maintenance of the overall wellbeing of the patient.<sup>[7]</sup>

Radiology Request Form is a formal and official communication tool from a Clinician, his surrogate or whoever is making the request, requesting the Radiographer or the Radiologist to take a requested action on the stated patient and communicate the outcome back to the Clinician or whoever made the request either in the same form or any other prescribed and acceptable manner.<sup>[8]</sup> Radiology Request Form is not just a communication tool but also a medical record as well as a legal document if and when the need arises.<sup>[9]</sup> There is no globally or even nationally prescribed format or content of a Radiology Request Form but there are basic classes of information or data that should be contained therein namely; Personal data of the patient that includes the name, age, gender, address (hospital and Home), Hospital Information about the patient which includes Ward/Clinic, Hospital Number, X-ray number and date request is made.<sup>[10]</sup>

Medical information about the patient. This will include whether ambulatory or not, clinical condition necessitating the request, provisional diagnosis, the examination required and part of the body involved, Past surgical and radiographic examination history including previous X-ray number and film, Information on the referring Clinician that will include the name, address and signature. The information contained in the Radiology Request Form is of utmost importance for optimal patient management on the part of both the Clinician and the Radiographer. It is the duty of the Radiographer to carry out Radiological examinations as requested by the Clinician or his surrogate. In making the request however, the Clinician has the responsibility of ensuring that the request forms are filled correctly and completely before sending same to the radiographer. In carrying out his own part of the service chain to the patient, the Radiographer is ever mindful of the need and professional responsibility to protect the patient from unnecessary exposure to ionizing radiation. For this reason the radiographer needs to convince himself that the request is justified and that the benefits derivable from the examination outweigh the possible risks the patient will be exposed to in terms of ionizing radiation.<sup>[11]</sup>

To serve as an effective tool of communication between the Clinician and the Radiographer therefore, Radiology Request Forms need to be correctly and completely filled by the Clinician to ensure clear and concise messaging. The Clinician is saddled with the duty of filling the

forms in legible hand writing, ensuring the filling of all the fields provided in the form correctly and in full (not abbreviated), giving enough details in relevant fields as to be of help to the receiving Radiologist or Radiographer in arriving at different decisions in aid of quality service delivery. When this is the case, the forms are said to have been adequately filled.

Adequate filling of Radiology Request Forms has multiple positive effects on quality radiological service delivery. It helps the Radiographer to decide on whether the requested procedure on the particular patient is medically justified in view of the deleterious effect of radiation doses or whether it may serve better to run an equally good but less hazardous procedure on the patient.<sup>[12]</sup> The information on adequately filled Radiology Request Form will also help the Radiographer decide on the level of skill to be engaged as well as type and size of equipment to be used. Precautionary measures to be put in place both pre and intra procedure can also be gleaned from the forms. Also, information that can help narrow down possible diagnosis as well as a channel of seamless communication with the requesting Clinician be facilitated by information on the forms. The overall effect of all these benefits of adequately filled Radiology Request Form is good service delivery characterized by timely and effective service, patient satisfaction and ambient work place harmony.<sup>[13]</sup>

Because of the numerous benefits derivable from adequately filled Radiology Request Forms, it is of utmost importance that measures are regularly put in place to ensure total compliance to this all important duty at all times. The starting point for the measures is evidence-based information on how these forms are adequately filled by concerned stakeholders. This is what has necessitated this work on adequacy of filling of Radiology Request Forms in Alex Ekwueme Federal University Teaching Hospital, Abakaliki, Nigeria.

## MATERIALS AND METHOD

A cross sectional descriptive study design was adopted for the study. The study was carried out in Radiology Department of Alex Ekwueme Federal University Teaching Hoapital Abakaliki, Ebonyi State of Nigeria. All the radiological examination requests forms, made out by Clinicians of the hospital or their surrogates using the prescribed and adopted Radiology Request Form format of the hospital and received, at the Radiology Department of the hospital formed the target population for the study. A pre-study visit was made to the hospital to get hold of a sample of the hospital prescribed Radiology Request Form, and also check the radiology request register to have an idea of average daily, weekly, monthly and annual attendance at the department. Based on the high average 350 attendance record obtained, it was resolve that the forms from a three-month period (over 1000) will give a good population size. For currency, it was decided that the forms from the last

three months preceding the study (December 2023 to February 2024) formed the target population.

To give a good representation of the population and with population size of about 1,100 decided upon, confidence level of 95% and margin of error of 5%, the ideal Sample size was calculated to get the correct sample size figure using online Sample Size Calculator. This was adjusted to 480 for ease of division into three and to allow for some that may be discarded by reason of illegibility.

Random sampling method was used to select 160 forms from each of the three months of December 2023 to February 2024 making a total of 480 forms. All request forms filled by Doctors of the hospital on the hospital approved Radiology Request Form will be included. Requests made by the Doctors of the hospital on non-approved Radiology Request Forms and those sent to the

radiology Department by Doctors not working with the hospital in their own Radiology Request Forms will be excluded. The primary source of data was personal visits of the researcher to the Radiology Department of the hospital. Prior to this, using the sample of the hospital Radiology Request Form obtained during the pre-research visit, the Researcher will make out an Excel work spread detailing all the fields in the Radiology Request Form, making provision for indication of performance or state of affairs.

Each of the forms will be assessed for legibility, completeness (whether all the columns are filled), and correctness (whether the columns are correctly filled) and use of abbreviations (globally recognized). An ethical approval was sought from the Ethical Committee of Alex Ekwueme Federal University Teaching Hospital.

## RESULTS

**Table 1: Legibility of the Radiography Request Forms.**

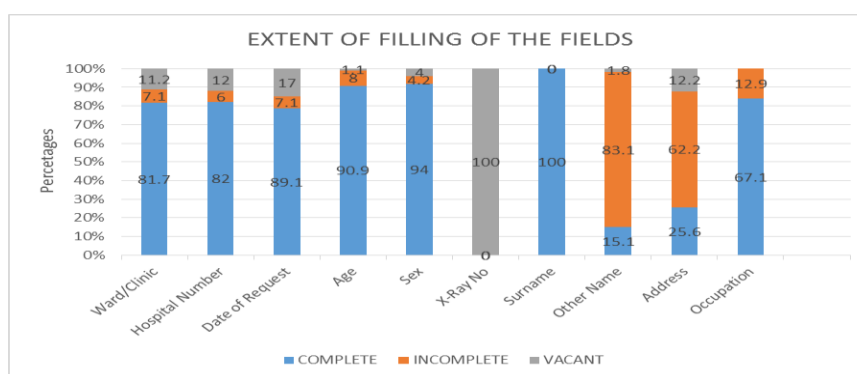
VARIABLES	FREQUENCY (%)			
	Selected	Completely Legible	Partially Legible	Completely Illegible
December 2023	160(33.33%)	153(95.63%)	7(4.27%)	0(0%)
January 2024	160(33.33%)	147(91.88%)	13(8.12%)	0(0%)
February 2024	160(33.33%)	150(93.75%)	10(6.25%)	0(0%)
Total	480(100%)	450(93.75 %)	30(6.25%)	0(0%)

Of the selected 480 forms, 450 (93.75%) were completely legible. All the remaining 30 (6.25%), were partially legible. There was none that was completely

illegible. The 30 that were partially legible were discountenanced in subsequent analysis, leaving only 450 forms for the study.

**Table 2 a: The extent to which some of the fields in each forms were filled.**

VARIABLES	FREQUENCY (%)						
	Ward/Clinic	HOSP. no	Date	Age	Sex	Surname	Other Name
Complete -	368(81.7%)	369(82%)	401(89.1%)	409(90.9%)	423(94%)	450(100%)	68(15.5%)
Incomplete -	32(7.1%)	27(6%)	32(7.1%)	36(8%)	19(4.2)	0(0%)	374(83.1%)
Vacant	17(11.2%)	54(12%)	17(3.8%)	5(1.1%)	18(4%)	0(0%)	8(1.8 %)
<b>Total</b>	<b>450(100%)</b>	<b>450(100%)</b>	<b>450(100%)</b>	<b>450(100%)</b>	<b>450(100%)</b>	<b>450(100%)</b>	<b>450(100%)</b>



**Figure One A: (The extent to which the fields for Ward/Clinic, Hospital Number, Date of request, Age, Sex, X-ray Number, Surname, Other Name, Address and Occupation were filled).**

Table 2 B: The extent to which some of the fields in each forms were filled.

VARIABLES	FREQUENCY (%)					
	Address	Occupation	Ambulatory status	Cassette Size	Part of body	Exam. Required
Complete -	115(25.6%)	302(67.1%)	9(25)	0(0%)	411(91.3%)	407(90.4%)
Incomplete -	280(62.2%)	58(12.9%)	(0%)	0(0%)	18(4%)	37(8.2%)
Vacant -	55 (12.2%)	90(20%)	441(98%)	450(100%)	21(4.7%)	6(1.2%)
Total	450(100%)	450(100%)	450(100%)	450(100%)	450(100%)	450(100%)

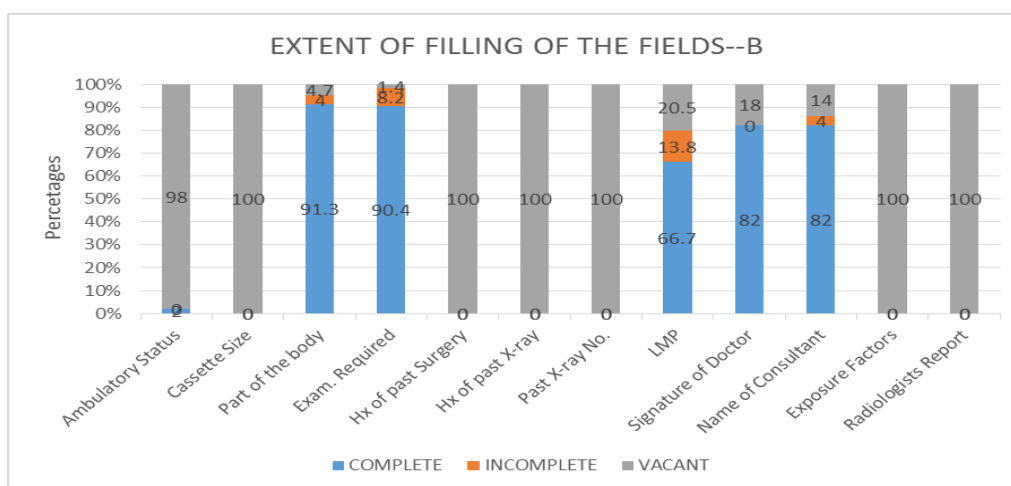


Figure 1 a: The extent to which the fields for Ambulatory status, Cassette Size, Parts of the body, Examination required, History of Past Surgery, History of Past X-ray, Past X-ray Number, LMP, Signature of Doctor, Name of Consultant, Exposure Factors and Radiologists Report were filled).

Table 2 C: The extent to which some of the fields in each forms were filled.

VARIABLES	FREQUENCY (%)					
	Previous Surgery	Previous X-ray	Previous X-ray No.	Doctors Signature	Name of Consultant	Radiology report
Complete -	0(0%)	0(0%)	0(0%)	369(82%)	396(82)	0(0%)
Incomplete -	0(0%)	0(0%)	0(0%)	0(0%)	18(4%)	0(0%)
Vacant -	450(0%)	450(0%)	450(0%)	81(18%)	63(14%)	450(0%)
Total	450(100%)	450(100%)	450(100%)	450(100%)	450(100%)	450(100%)

From Table Two above, there were seven fields which were consistently left unfilled in each of the forms. These fields are-ray number, Cassette Size, Previous X-

Ray Number, Exposure factors, and Radiologists Report. It therefore means that none of the forms (0%) was completely filled.

Table 3: Frequency of filling of each field on the form.

S/No.		Fields filled	Fields not filled
1	Ward/Clinic	400 (88.8%)	50 (11.2%)
2	Hospital Number	395 (88%)	54 (12%)
3	Date of Request	433 (96.2%)	17 (3.8%)
4	Age of patient	445 (98.9%)	5 (1.1%)
5	Sex	432 (96%)	18 (4%)
6	X-ray number	0 (0%)	450 (100%)

7	Surname of Patient	450 (100%)	0 (0%)
8	Other name	442 (98.2%)	8 (1.8%)
9	Address	395 (87.8%)	55 (12.2%)
10	Occupation	360 (80%)	90 (20%)
11	Ambulatory status walking/wheelchair/trolley	9 (2%)	441 (98%)
12	Cassette Size	450 (100%)	450 (100%)
13	Part of the body	429 (95.3%)	21 (4.7%)
14	Examination required	444 (98.6%)	6 (1.4%)
15	History of past operation	0 (0%)	450 (100%)
16	History of Previous X-ray	0 (0%)	450 (100%)
17	Previous X-ray Number	0 (0%)	450 (100%)
18	LMP	362 (79.5%)	88 (20.5%)
19	Exposure factors (View/KVP/MAS)	0 (0%)	450 (100%)
20	Doctors Signature	369 (82%)	81 (18%)
21	Name of consultant	387 (86%)	63 (14%)
22	Radiologists Report	0 (0%)	450 (100%)

The 22 fields contained in the Radiology Request Forms were filled to the following extents.

Ward/Clinic-400(88.8%), Hospital Number-395(88%), Date of request-433(96.2%), Age of patient-445 (98.9%), Sex-43 (96%), X-ray number-0(0%), Surname of patient-450(100%), Other name-442(98.2%), Occupation 360 (80%), Ambulatory status, Address -

395(87.8%), (Walking case/Chair/ Trolley theatre Portable), 9(2%). Cassette Size 0(0%), Part of the body-429(95.3%), Examination required-444(98.6%), History of past operation-0(0%), History of Previous X-ray-0(0%), Previous X-ray Number-0(0%), LMP-362(79.5%), Exposure factors (View/KVP/MAS)-0(0%), Doctors Signature-369(82%), Name of consultant-387(86%), Radiologists Report-0(0%).

**Table 4: How correct and complete the forms were filled.**

S/No.		Fields completely filled	Fields incompletely filled	Fields not Filled
1	Ward/Clinic	368 (81.7%)	32 (7.1%)	50 (11.2%)
2	Hospital Number	369 (82%)	27 (6%)	54 (12%)
3	Date of Request	401 (89.1%)	32 (7.1%)	17 (3.8%)
4	Age of patient	409 (90.9%)	36 (8%)	5 (1.1%)
5	Sex	413 (91.8%)	19 (4.2%)	18 (4%)
6	X-ray number	0 (0%)	0 (0%)	450 (100%)
7	Surname of Patient	450 (100%)	0 (0%)	0 (0%)



8	Other name	68 (15.1%)	374 (83.1%)	8 (1.8%)
9	Address	115 (25.6%)	280 (62.2%)	55 (12.2%)
10	Occupation	302 (67.1%)	58 (12.9%)	90 (20%)
11	Ambulatory status walking/wheelchair/trolley	9 (2%)	0 (0%)	441 (98%)
12	Cassette Size	0 (0%)	0 (0%)	450 (100%)
13	Part of the body	411 (91.3%)	18 (4%)	21 (4.7%)
14	Examination required	407 (90.4%)	37 (8.2%)	6 (1.4%)
15	History of past operation	00 (0%)	00 (0%)	450 (100%)
16	History of Previous X-ray	(0%)	(0%)	450 (100%)
17	Previous X-ray Number	0 (0%)	0 (0%)	450 (100%)
18	LMP	300 (66.7%)	62 (13.8%)	88 (20.5%)
19	Exposure factors (View/KVP/MAS)	0 (0%)	0 (0%)	450 (100%)
20	Doctors Signature	369 (82%)	0 (0%)	81 (18%)
21	Name of consultant	369 (82%)	18 (4%)	63 (14%)
22	Radiologists Report	0 (0%)	0 (0%)	450 (100%)

The only field correctly and completely filled in each of the forms is Surname of the patient. This is followed by Sex (91.8%), Part of the body (91.3%), Age (90.9%) and Examination required (90.4%).

## DISCUSSIONS

Radiology Request form is a globally adopted communication tool between the requesting Clinician and the radiographer/Radiologist in the collaborative effort to make radiographic investigations more focussed on the health and welfare of the patient rather than on mere image generation. While it is the duty of the Clinician to make a request of the type of examination he needs in his clinical duties, it lies with the radiographer to decide whether the requested examination is in the best interest of the patients considering the benefits derivable from the test and the potential radiation hazard the patient will be exposed to. Adequate information in the forms by way of legibility, correctness and completeness are key aids to the Radiographer in justifying each radiographic examination. The purpose of this study is to establish how adequately the referring Physicians in the location of study fill out the Radiology Request Forms.

**Content of the Radiology Request Forms:** The location of study has a formal Radiology Request Form with 22 Fields. Ward/Clinic, Hospital No, Age, Sex, Surname,

Other name, Address, LMP, Occupation, Date of request, Parts of the body, Examination required, Ambulatory status (walking/Trolley/), X-ray no, history of previous operation, history of previous X-ray, Previous X-ray no., Cassette size, Exposure factors(View/KVA/ MAS), Radiologist/Ultrasound/ECG report, Doctors signature and Name of Consultant in charge of Case.

While the fields provide for a wide range of information, it falls very short in many areas that are critical for decision making by the Radiographer. The form makes no provision for the patient's clinical condition nor even for provisional diagnosis, two key features that will aid the radiologist in narrowing down the differential diagnosis. The form also makes no provision for the phone numbers of the requesting physician or the Consultant in charge. This will pose a problem where the Radiographer needs to share ideas with the referring physician as to the suitability of the requested examination. The phone number of the patient is also necessary for post examination follow-ups. There are also no provisions on the form for the name and signature of the Radiographer who justified the examination nor for informed consent by the patient or his relations. Also no provision for known allergies of the patient. Most curious is the non-provision for the name of the referring physician, just the signature is provided for. The combined implication of these noticed

shortfalls in that the form needs an upgrade to bring it in line with global best practice.

**Legibility of the Request Forms:** An illegible form is as useless as no form at all. It adds no value to the investigation process. In the study, of the 480 selected forms, 450 (93.75%) were completely legible, 30 (6.25%) were legible in part while none was completely illegible. This result compares closely to the works of Akintomide *et al* which returned a legibility rate of (92.63%) while (7.37%) were illegible. A few of the forms became illegible by reason of the storage condition but the majority of them were actually due to poor handwriting perhaps compounded by the hurry in filling out the forms. Type setting of the forms, though more cumbersome, would provide a better result. Better still, migration to electronic paperless form will completely solve the problem.

### Completeness of forms

In all the forms, there were seven fields which were consistently left unfilled. These fields are X-ray number, Cassette Size, History of previous operation, history of previous X-ray, Previous X-Ray Number, Exposure factors, and Radiologists Report. It therefore means that none of the forms (0%) was completely filled. It is significant to note that included in this list are fields such as cassette size and exposure factors that ought to be filled by the Radiographer for medico-legal reasons. Radiology Request Form is a communication tool and therefore a 2-way messaging tool. Both the referring Doctor and the Radiographer ought to be diligent in fulfilling their roles. This is lacking from the findings of this study. Where the Radiologists report comes in a different form, a duplicate of the report ought to be entered in the Request form as provided for record purposes.

**Completeness of different fields:** There were clear differences in the extent to which of the fields in the form were filled. The 22 fields contained in the Radiology Request Forms were filled to the following extents: Ward/Clinic-400(88.8%), Hospital Number-395(88%), Date of request-433(96.2%), Age of patient-445 (98.9%), Sex-43 (96%), X-ray number-0(0%), Surname of patient-450(100%), Other name-442(98.2%), Occupation 360 (80%), Address 395(87.8%), Ambulatory status (Walking case/Chair/ Trolley theatre Portable), 9(2%). Cassette Size 0(0%), Part of the body-429(95.3%), Examination required-444(98.6%), History of past operation-0(0%), History of Previous X-ray-0(0%), Previous X-ray Number-0(0%), LMP-362(79.5%), Exposure factors (View/KVP/MAS)-0(0%), Doctors Signature-369(82%), Name of consultant-387(86%) and Radiologists Report-0(0%).

**Ward/Clinic:** The frequency of filling of the Ward/Clinic field in this study is 400 (88.8%). This is higher than the result of Bashiru *et al* (75%) and Akintomide *et al* (86.55%), almost same with that of

Afolabi *et al* (88%) but below those of Eze *et al* (97%), Robinson *et al* (92.4%) and Iurhe *et al* (98.3%). The Ward/Clinic of the patient is one of the key tools in locating the patient. It avails the Radiographer the opportunity for pre-procedure interview, counselling and possible pre-procedure medication thereby enhancing positive outcomes of the procedure to the satisfaction of the patient.

**Hospital number:** Hospital Number was filled in 395(88%) of the forms in this study. Iurhe *et al* got (92.3%) while Akintomide *et al* got (86.55%). Hospital number as an identification criterion finds most use in filing and retrieval of patient's records. Where this is missing, the alternative, often cumbersome means of tracing the files will be a major cause of delay in providing services.

**Surname:** Surname of patient was consistently filled in all the 450(100%) forms for the study. This compares favourably with those of Bashiru *et al* (99.6%), Agi *et al* (100%), Koirala *et al* (100%), Eze *et al* (100%), Robinson *et al* (99.6%), Iurhe *et al* (100%), Akintomide *et al* (97.4%) and Afolabi *et al* (100%). Surname is very critical in proper identification of a patient.

**Other name:** This was filled in 442(98.2%) of the forms. Other Name: Agi *et al* (100%), Koirala *et al* (100%), Eze *et al* (100%), Robinson *et al* (99.5%), Iurhe *et al* (100%) and Akintomide *et al* (97.4%) got figures in the same bracket. In the remaining (1.8%) of the forms under study, other name was either omitted or abbreviated. This is not good enough as it could cause confusion and waste of valuable time in sorting out to whom the Surname appropriately belongs.

**Age of patient:** The frequency in which this was filled in the study was 445 (98.9%). This is higher than those of Robinson *et al* (65.9%), Bashiru *et al* (88%), Agi *et al* (86.3%), Akintomide *et al* (83.45%) but compares favourably with those of Koirala *et al* (99.2%), Eze *et al* (92.4%) and Iurhe *et al* (98%). Where the Age of a patient is not clearly stated, it robs the Radiographer the vital ingredient for making decision on such issues as type and size of equipment required, level of skill and personnel needed and special precautions to be taken.

1. **Sex:** Filling of the field for Sex was to the frequency of 43 (96%). This is similar to the findings of Agi *et al* (97.3%), Koirala *et al* (99.6%), Eze *et al* (97.3%), Robinson *et al* (98.47%), Iurhe *et al* (99.7%), Akintomide *et al* (95.30%) and Afolabi *et al* (100%). The Sex and Age of the patient will put in proper perspective, the menstrual history of the patient. This may determine the timing of the procedure as well as interpretation of certain findings of the procedure.
2. **Address:** This field was filled in 395 (87.8%) of the forms way above the results of, Eze *et al* (29%), Robinson *et al* (20.9%), Iurhe *et al* (13%), Akintomide *et al* (10.86%) and Afolabi *et al*

(39.6%). The address of the patient is key to contact tracing after procedure for follow up. It is significant to note that while (87.8%) of the forms had the address filled in, (62.2%) of these were done in such a scanty manner that they are of no use. Mere names of Cities, Towns and Villages were filled in without much specificity thereby making tracing extremely difficult.

**Date of request:** 433 (96.2%) of the forms had the date of request duly filled. Bashiru et al (98.4%), Agi et al (98%), Eze et al (91.1%), Robinson et al (97.7%) and Irurhe et al (92%) had results in similar region. /Date of request is necessary to monitor service delivery rate and patients compliance to instructions.

**Examination required:** The frequency of filling of the field of examination required is 444 (98.6%) in this study. Bashiru et al (99.4%), Agi et al (100%). Robinson et al (99.6%), Irurhe et al (100%) and Akintomide et al (99.66) all got higher figures. The examination required ought to be filled at all times. The (98.6%) finding is thus unsatisfactory. A return of such form to the referring Clinician to make amends may cause delays to the process, inconvenience to the patient and likely disruption of workplace harmony if not done with tact.

**Part of the body:** As crucial as this field is, only 429 (95.3%) of the forms had it filled up. Koirala et al (100%) and Eze et al (99.4%) had higher results while Afolabi et al (68.8%) had a very much lower figure. The Radiographer is left to conjecture if not corrected leading to possible errors or repeat procedures thereby increasing radiation hazards to the patient.

**Cassette Size:** None of the forms 0(0%) had this field filled out. Eze et al had (44.3%) of the Cassette Size field filled up in their forms. It is surprising that this field that ought to be filled by the Radiographer is consistently left vacant. Lack of understanding of the medico-legal implications of this field on the part of the Radiographers may account for this. They ought to know that accurate filling of this field may be the only defence they may have when certain legal issues arise.

**X-ray number.** In this study, the field for X-ray Number was consistently left unfilled 0(0%) in all the forms. Eze et al in their own study recorded (20%) filling of the X-ray number form. The consequence of this non-filling of the X-ray number is poor filing, storage and retrieval of X-rays, delays in delivery process and possible errors in reports.

**Exposure factors (View/KVP/MAS).** None 0(0%) of the forms had this field filled up again showing the lack of appreciation by the Radiographers of the medico-legal implications of this field. Not only does this field clearly indicate the direction of the radiation on the patient, it also shows the intensity and the distance of the beam to the patient all aimed at providing evidence of methods

employed to minimize radiation hazard to the patient. This proper filling of this field may be crucial defence in certain legal issues that may arise.

**Previous X-ray number.** Again, none 0(0%) of the forms had this field filled up. This is close to that of Akintomide et al (0.69%) and Robinson et al (2.8%) but far below those of Eze et al (21.6%) and Afolabi et al (35.6%). Previous X-ray number will aid tracing of previous X-ray film and report which will help the decision of the justification of the current request but also put the interpretation of the current request in proper perspective.

**History of past operation:** This field was filled up in none 0(0%) of the forms under study. Akintomide et al (0.35%). Robinson et al (4.2%) and Irurhe et al (3.3%) had results close to this but the result by Eze et al (42.2%) is way out above this. History of past operation finds use in interpretation of result especially in post-op management of patients. It will also assist when organs or tissues are missing on films.

3. **Ambulatory status (Walking case/Chair/ Trolley theatre Portable):** This was filled in 9(2%) of the forms. Eze et al (1.4) had a close figure while results by Robinson et al (5.7%) and Irurhe et al (20.7%) were significantly higher. Information contained in this field aids preparations for transportation of the patient to the Radiography Room, positioning of the patient and number of assistants to be engaged during the procedure.
4. **Signature of doctor:** Filled in 369 (82%) of the forms. Agi et al (91.0%), Eze et al (88.7%), Irurhe et al (97.7%), Akintomide et al (85.56%) and Afolabi et al (96.5%) had much higher figures. The signature of the referring Doctor confirms that he actually made out the form or that it was made out under his strict instruction. Not only does this give the Radiographer the authority to act on the form, it also has medico-legal implications as the originator of the process and provider of the relevant information on the form.
5. **Name of consultant:** Filled in 387(86%) of the forms. This is higher than those of Eze et al (67.9%) and Robinson et al (72.1%), compares favourably with those of Agi et al (81.3%) and Akintomide et al (83.10%) but far below those of Afolabi et al (93.1%) and Irurhe et al (99.7%). Where the Radiographer has reason to advise against a particular procedure or suggest a safer but yet useful procedure in the alternative, it is to the Consultant that he will make reference.

#### **Adequacy of information Supplied**

Information in the Request Form is considered to be adequate if it is legibly put down, is factual, unabbreviated and in such details as to be beneficial to all who have need of them. A lot of the information supplied on the form were grossly inadequate.



Apart from Surname that was consistently provided in all the forms, virtually all other fields that were filled suffered one defect or the other. In 6% of the cases, Ward/Clinic were abbreviated in such manner as MSW, MMW, FMW, FSW to mean Male Surgical Ward, Male Medical Ward, Female Medical and Female Surgical Ward. Only those who are conversant with the workings of the hospital can easily find such nomenclature useful as the abbreviations are out of sync with globally recognised meanings attached to those abbreviations in the medical field globally. Wards or Clinic are very useful in contact tracing either pre-procedure for assessment or post procedure for follow up purposes.

As regarding the field for Age, information supplied in 8% of the cases are inadequate in the sense that entries were made as "Adult", "Child", "A" or "CH" (the last two standing for "Adult" and "Child" respectively. Where no figures are indicated, it is left to the conjecture of the Radiographer as to how old an Adult is and how young a Child is. The age of a patient is very critical for the Radiographer in determining type and size of equipment necessary, special skills and techniques to be employed as well as type and dosage of premedication for the procedure.

While the filling of the field for Surname was perfect, only in 15.1% of cases was the field for Other Name adequately filled. In 83.1% of cases, the other name was merely abbreviated. This increases the risk of mistaken identity and difficulty in contact tracing. These can lead to errors and delay in service delivery.

Patients address also suffered inadequacy in the study. Apart from the fact that it was not filled in 12.2% of the cases, of the 87.8% in which it was filled, a huge chunk of 62.2% had only the City or Town or Village with no further details and specificity. This again will hamper contact tracing for follow up. Other critical fields that were inadequately filled are Sex (4.2%-abbreviated), examination required (8.2%-site and view not indicated), Name of consultant (4%- Surname, then initial of other name) and part of Body (4%- side not indicated). Conjectures consequent upon these increase the risk of errors and ultimately poor service delivery and poor patient satisfaction.

## CONCLUSION

Alex Ekwueme Federal University Teaching Hospital Abakaliki has a customized Radiology Request Form with 22 fields. It is substantially in tune with globally accepted recommendations but fall short in some key areas. It has no provisions for the phone numbers of patients, referring Doctor or the Consultant in charge. It also does not make provisions for clinical features of the patient nor for the provisional diagnosis. It also provides no space for consent by the patient and for the name and signature of the Radiographer that justifies the procedure and the Radiographer that eventually carries out the procedure. Above all, it has no space for the name of the

referring Doctor who in any case, initiates the process. A great majority of the forms were legibly filled with. Not a single form was completely filled as at least 7 fields were constantly left unfilled in each of the forms. The fields are for X-ray number, Cassette Size, Previous Operation, Previous X-ray, Previous X-ray Number, Exposure factors and Radiologists Report. Many of the fields that were filled were incompletely or incorrectly field making them inadequate. Strangely, in all the forms, the fields meant for the Radiographer, including the field for report, were left unfilled.

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