

Evaluation of Reasons for Non-Complete Filling of Investigation Request Forms by Medical Doctors in Rivers State, Nigeria

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Abstract

Background: Incomplete filling of Investigation Request Forms (IRF) by medical doctors is a common problem leading to pre-analytical errors and wrong interpretation of investigation results. Computers have been employed to alleviate the problem of incomplete filling of IRF in developed nations while the developing countries are still struggling with a lot of paper work. A good knowledge of the medical doctors' reasons for non-complete filling of IRF may be the first step in solving these problems. This study was designed to determine the reasons behind the incomplete filling of IRF by medical doctors in Rivers State.

Materials and Methods: This was a semi-structured, self-administered questionnaires-based descriptive survey conducted among consented medical doctors using hardcopy version of the questionnaire-based. The completed questionnaires were retrieved immediately and data generated in this study were collected using data proforma, and processed using SPSS version 21 (SPSS Inc., ILL, USA, 2003). The data were analyzed using descriptive statistics (tables, frequencies, percentages and bar chart).

Result: Out of 88 respondents, the greater proportion 44.3% (n=39) of the respondents perceived inadequate time to complete the IRF as their reason for inability to incomplete filling of the IRF. Greater proportion 97.7% (n=86) of the respondents agreed that medical doctors should be trained and re-trained on complete filling of the IRF. The effect of an incomplete filling of IRF according to respondents include but not limited to; misinterpretation of results (n=60), delay in carrying out the investigation (n=86) and giving results to wrong patients (n=88).

Conclusion: The commonest reason for incomplete filling of the IRF was inadequate time as there was usually much information to be filled. Interventions could result in a reduction of the errors and problems often created by incomplete filling of IRFs.

Keywords: Investigation request form; Medical doctors; Reasons for incomplete filling of investigation request forms

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Introduction

Investigation Request Forms (IRF) are forms that contain requests made by a licensed medical doctor to the radiology department and/or the laboratory (haematology and blood transfusion, chemical pathology, histology, microbiology and anatomical pathology units). IRF are an effective 2-way communication between the requesting medical doctor and users of the services offered by the laboratory and radiology departments [1-3]. IRF should be

completed adequately and legibly to avoid misinterpretation of results. The importance of adequate completion of IRF by medical doctors cannot be over emphasized and the importance of proper documentation in these forms is usually emphasized early in physicians' training. The IRF not only provide information on the patient(s) and the test(s) being requested for but is used to communicate results back to physicians and patients. Absence of clinical information can lead to serious post analytical errors

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such as inappropriate interpretative comments; can also result in medical errors or delay in institution of appropriate treatment which can significantly impact the quality of investigation results and ultimately patient safety and outcome.

A typical IRF contains information in four areas namely the patient's details, the investigation(s) being requested for, the physicians' details and other details. The patient's details include name, age, sex, ward/department, tribe, Last Menstrual Period (LMP), file/folder number unique to the patient, clinical details and diagnosis while the investigation details include the specific investigations being requested for, the specimen type, date of request, date and time of specimen collection. The physicians' detail section includes the doctor's name, signature and consultant in charge of the patient. Sometimes the phone number of the physician is needed for easy accessibility. The signature of the requesting doctor authenticates the request. Other relevant details include present medications/current treatment, previous reports, radiology/laboratory request number (usually completed by the laboratory or radiology department).

IRF should be filled completely to avoid such problems as misdiagnosis, repeated laboratory tests, improper treatment procedures, and inadvertent mix-up of patients and ensure proper identification of patients and patient samples. The writing should be legible in clear handwriting for easy extraction of information and only known, acceptable abbreviations used if at all. Legible is defined in the dictionary as capable of being read or deciphered especially with ease [6,7].

Inadequate filling of IRF is a global problem. Different studies have audited the complete filling of IRF by doctors and quite a number of them revealed a suboptimal level of completion of IRF. An audit of 580 radiological request forms by Akintomide et al. [1], the most completed request form were 86.6% filled while the least completed were 26.67% filled. In another study by Afolabi et al. [2], out of 202 forms, 89.1% had complete and adequate information. In a study at Amino Kano Teaching Hospital, incomplete information included mostly the physician's signature (60.8%) in blood transfusion service forms while only 9.4% from the department of hematology met all quality indicators [3]. In Lagos, the error rate of incomplete filling of IRF was 55.5% and this dropped to 35.3% following interventions [4]. Agi et al. [8] in Port Harcourt concluded that different aspects of radiological forms are incompletely filled with the name of the consultant being the least filled (only 81.3% of the forms contained the name of the consultant).

In developed countries, laboratory quality management systems have been institutionalized, with robust monitoring systems in place to detect and minimize errors before they occur at any phase in the laboratory. This is unlike what happens in developing countries like Nigeria where the focus is on the analytical phase of the workflow without consideration of other factors and variables beyond the control of the laboratory. In Australia, planned intervention and sustained improvement in compliance with standards resulted in an immediate reduction in the proportion of incomplete laboratory request forms from 41% to 2% [5].

Incomplete filling of Investigation Request Forms (IRF) by medical doctors is a common problem leading to pre-analytical errors and wrong interpretation of investigation results. Computers have been employed to alleviate the problem of incomplete filling of IRF in developed nations while the developing countries are still struggling with a lot of paper work. A good knowledge of the medical doctors' reasons for non-complete filling of IRF may be the first step in solving these problems. Although many studies have been carried out on the incomplete filling of IRF by doctors, to the best of the researcher's knowledge, none of these studies have been conducted to ascertain from the medical doctors why they do not completely fill the IRFs. This study was designed to determine the reasons behind the incomplete filling of IRF by medical doctors in Rivers State. It is hoped that when the reasons are ascertained, appropriate interventions can be made.

Materials and Methods

This was a cross-sectional questionnaire-based survey carried out among medical doctors of different cadres, ages and areas of specialization both from the private and public sectors in Rivers State during the annual Nigerian Medical Association's (NMA) physicians' week in August 2019. The questionnaire was divided into three sections. The first section contained the physician's details; the second contained the reasons why physicians don't completely fill the IRF while the third part contained suggested solutions by the physicians. The questionnaire was semi-structured and self-administered, which was pre-tested by the authors and a content reliability of 0.92 Cronbah alphas was obtained. It took an average of 5 minutes to complete each form. A total of 100 questionnaires were distributed and 88 of them were returned given a response rate of 88%. Convenience sampling technique was used whereby doctors attending the NMA week 2019 were selected based on availability and willingness to take part in the research which involved the filling of questionnaires. The obtained data were collected using data proforma and analyzed using descriptive statistics such as percentage, frequency, tables and charts.

Results

Out of 88 respondents, 68.2% (n=60) were males while females accounted for 31.8% (n=28). The majority of 36.4% (n=32) of the respondents were within the age group of 30-39 years. A greater proportion 56.8% (n=50) of the respondents had ≥ 10 years post-graduation experience. The majority of the respondents 84.1% (n=74) work in public sector (**Table 1**). The majority 19.3% (n=17) of the respondents were consultants and medical officers each respectively (**Figure 1**). Reasons for incomplete filling of the Investigation Request Forms (IRF) was evaluated and the results revealed that the greater proportion 44.3% (n=39) of the respondents perceived inadequate time to complete the request form as their reason for inability to complete filling of the IRF and the least said they were not taught in medical school, which is 8% (n=7) (**Table 2**). The respondents' perception on the need for regular training and re-training of medical doctors on how to fill the IRF completely was assessed and a greater proportion 97.7%

(n=86) of the respondents agreed that medical doctors should be trained and re-trained on complete filling of the IRF. Out of 86 respondents that agreed on the regular training of medical doctors on complete filling of IRF, 68.2% (n=60), suggested that the frequency of the training should be twice a year. The respondent's knowledge of the benefits of filling of the request forms completely was evaluated and the results were; good record keeping (n=70), easy access to physician in case of worrisome lab findings (n=45), monitoring of disease or therapy (n= 78), avoid wrong identification of patients (n=88), legal protection of the doctor (n= 86) and research (n=65). The effect of an incomplete filling of IRF according to respondents include but not limited to; misinterpretation of results (n=60), delay in carrying out the investigation (n=86) and giving results to wrong patients (n=88).

Table 1: Demographic distribution of respondents.

Variables	Frequency	Percentage (%)
Gender		
Male	60	68.2
Female	28	31.8
Total	88	100
Age		
20-29	11	12.5
30-39	32	36.4
40-49	22	25
50-59	16	18.2
≥ 60	2	2.3
No answer	5	5.9
Total	88	100
Years of Experience		
<10years	38	42.2
≥ 10 years	50	56.8
Total	88	100
Place of work		
Public/government	74	84.1
Private	11	12.5
NGO	1	1.1
Not yet working	2	2.3
Total	88	100

Table 2: Reasons for inadequate filling of IRF by respondents.

Variables	Frequency	Percentage (%)
Inadequate time	39	44.3
Too much information being requested for	30	34.1
Not necessary	23	26.1
Patient not volunteering information	22	25
Not applicable	20	22.7
No reason	20	22.7
Appropriate form not provided	13	14.8
Not taught in medical school	7	8

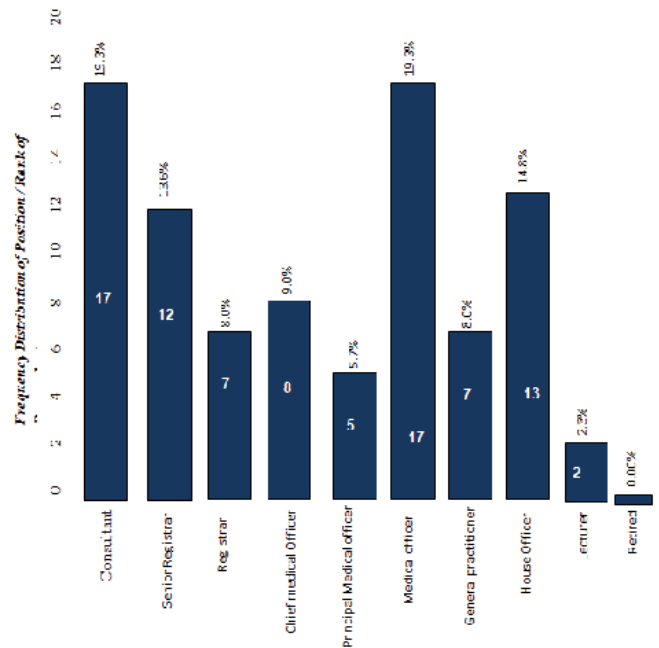


Figure 1: Position/Ranks of the respondents.

Whether the respondents usually fill the IRF completely in their facilities was assessed and the highest percentage 48.9% (n=43) of the respondents most times filled the IRF completely, followed by those said sometimes 27.3% (n=24) and the least 22.7% (n=21) said they had always filled the IRF completely. Out of 88 respondents, 98.9% (n=87) usually filled the IRF manually/handwritten while only 1.1% (n=1) filled the form electronically (Table 2). Out of 124 responses from 67 respondents on the aspects of form that they think they sometimes forget to fill, the aspects include but not limited to; age of (12.9%), state of origin/tribe (48.39%), clinic/ward (16.13%) and folder number (10.48%) (Table 3). The majority 64.8% (n=57) of the respondents suggested that there should be regular workshops on how to fill the IRF completely, followed by those that suggested that electronic form filling should be adopted 31.8% (n= 28) (Table 4).

Table 3: Patterns of filling of the Investigation Request Forms.

S/N	Patterns of filling IRF	Frequency (n)	Percentage (%)
a	How are IRF filled in your facility		
	Electronically	1	
	Do you fill IRF completely/ Handwritten	87	
	Total	88	100
b	Do you fill IRF completely in your facility		
	Sometimes	24	27.30%
	Most times	43	48.90%
	Always	21	22.70%
	Total	88	100

c.	Aspects of the form you think you sometimes forget to full		
	Name of patient		
	Age of patient	16	12.90%
	Clinic/ward	20	16.13%
	Folder number	13	10.48%
	Doctor's name		
	Doctor's signature		
	Specimen		
	State of origin/tribe	60	48.39%
	Current treatment		
	Previous treatment	15	12.10%
	Total	124	100

Table 4: suggestions on solution for inadequate filling of IRF by respondents.

Variables	Frequency	Percentage (%)
Regular workshops	57	64.8
Electronic filling	28	31.8
Physician assistant	27	30.7
Reduce requested information	22	25
Reduce doctor's workload	10	11.4
Rejection of incomplete IRF	10	11.4
No answer	6	6.8

Discussion

Incomplete filling of IRF is a common problem among doctors as shown in several studies [1-5].

In this study, the greater proportion of the respondents perceived inadequate time to complete the request form as their reason for inability to complete filling of the IRF and the least said they were not taught in medical school. This reason has seriously led to poor filling of investigation request forms by medical doctors in our setting. This finding is in agreement with the findings of the studies conducted by Adizua [9] in Southeastern Nigeria and Joe et al. [10] in Bayelsa State, Nigeria, which reported poor level of investigation request forms filling among medical doctors. This is understandable since the doctor patient ratio in Nigeria is below the WHO recommended doctor-patient ratio. Nigeria has a doctor-patient ratio of 1:6000; a far cry from the WHO recommended 1:600 [11]. This large number of patients is constantly overwhelming the doctors and in a bid to make more time available to see the mammoth crowd of patients

most physicians therefore fill mainly the patients name and investigation required leaving other spaces vacant [8]. This was so because the physicians think the information required on most forms are much and as such fill only the information they think is relevant and this certainly not helpful because every aspect of the form was designed to capture relevant identity of the patients and their illness.

In this study, our respondents enumerated some benefits of completely filling of the IRF, which include but not limited to include having good records, easy access to the doctors managing the patients, improved diagnosis, avoid wrong identification of patients, research, legal protection and treatment. Others include avoiding misinterpretation of results, giving results to wrong persons, giving wrong treatments or injury to the unborn child. This finding is consistent with the finding of the study carried out by Agi et al. [7], which also documented the aforementioned benefits of completely filling of the IRF.

Many doctors did not suggest electronic filling of data. The reason for this may not be farfetched. Electronic capturing of data will require regular power supply, which the country is yet to attain.

The result of our study shows that the greater proportion of our respondents, suggested that there should be training and re-training of medical doctors through workshops and seminars on the completely filling of the IRF. This was also documented in the study conducted by Oseigbe et al. [4], which evaluated the effectiveness of clinician education on the adequate completion of laboratory tests request forms at a Tertiary Hospital. Collaboration between the laboratory and radiological departments with clinicians where there are refresher courses via seminars, departmental meetings, hospital grand rounds will be recommended to solve the problem of incomplete filling of IRF. This can be done at least twice a year and fliers, pamphlets could come in handy on such occasions.

Conclusion

Incomplete filling of IRF is a common problem among medical doctors. The commonest reasons given by the respondents for incomplete filling of IRFs include inadequate time, too much information been requested for on the IRF and doctors thinking it is not necessary to fill the form completely. The solutions suggested by doctors include training and retraining of doctors, collaboration between the laboratory and radiology departments, to electronically fill the forms and the engagement of physician assistants to fill the forms.

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