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RESEARCH ARTICLE

ASSESSMENT OF THE AWARENESS OF MEDICAL LITIGATION AMONG RADIOGRAPHERS IN THE SOUTH EASTERN NIGERIA

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Abstract

Litigation in the practice of medical radiography is an area that calls for much attention. There has been a surge in the number of litigious cases against medical practitioners and the field of medical radiography is not spared in the trend. There has really been little to no research done on litigation in the field of radiography especially in the south east, hence the need for this study. The aim of this study was to assess radiographers' awareness of medical litigation, determine if any correlation exists between rank of radiographers and medical litigation, gender of the radiographers and medical litigation and to assess measures that can be put in place to reduce medical litigation among practicing radiographers. A prospective cross-sectional study of 154 radiographers practicing in government and private owned hospitals in South Eastern Nigeria was carried out, with a demographic characteristic comprising of 69 males (44.8%) and 85 females (55.2%) and 133 (86.4%) intern/corps members, 13 (8.4%) basic radiographers, 5 (3.2%) senior/principal radiographers, 3 (1.9%) assistant chief/chief radiographers. A semi-structured questionnaire comprising 3 sections was used to collect data and analysis was done using SPSS version 23.0. Majority of the radiographers showed awareness of litigation either as undergraduates or in the course of practice. Although the awareness of medical litigation was good, majority of the radiographers seem not to have experienced litigation. Finally, there was statistically significance between rank of radiographer and awareness of medical litigation and there existed no statistically significance between gender of radiographer and the awareness of medical litigation. Obtaining consent, explaining procedure to patient and proper documentation and diagnosis are major ways of preventing litigation in practice and majority agreed that a course called medical litigation should be introduced into the undergraduate curriculum.

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Introduction:-

The growing numbers of medical malpractice claims worldwide has caused alarm in all areas of health care including medical radiography and led to an increasing awareness of legal implication of practice. Thus, the likelihood that litigation cases against radiographers will increase markedly in the future in Nigeria is highly anticipated. Medical litigation is a legal claim that arises when a medical or health-care professional violates professional standards in their practice, causing harm to a patient as a result of a careless act or omission[1]. Errors in diagnosis, treatment, aftercare, or health management could all lead to neglect. A common feature of medical misconduct is that it has three elements. Firstly, it must be demonstrated that the treatment was not in accordance with the standard of care, which is the established and recognized medical treatment. Second, it must be demonstrated that the patient was injured as a result of the negligence. In other words, a harm that occurs as a result of negligence or a negligent act that does not result in an injury cannot be called malpractice. Third, the injury must have resulted in severe damages, such as disability, unusual pain, suffering, hardship, loss of income, or a significant medical bill burden, [1].

In the United States of America (USA) and United Kingdom (UK), litigation has featured prominently in all areas for many years [2]. This 'blame' culture has become established due to a variety of reasons. The tendency for the legal profession to offer a 'no win, no fee' basis has encouraged individuals to litigate. The field of medical radiography has not escaped this trend and in fact, is one of the biggest growth areas. It has been suggested that this increase is not due to falling standards within departments, but rather increased public awareness [2]. Notably, the public has access to vast amounts of information on the internet as well as media coverage highlighting areas where problems occur; these have helped to fuel the trend for patients to sue when they encounter an adverse outcome that they would normally have ignored [2]. A study in UK showed an upward trend in the number of litigation cases related to radiographers for over 15 years. This increase was attributed to several different reasons, chief among them being that radiographers are heavily involved in day-to-day patient diagnosis, and the field of medical radiography has a higher percentage of medical negligence claims than amongst other specialty[3]. It is generally acknowledged that the full extent of the number of cases of litigation involving radiographers in Nigeria are not known, and suggestions have been made that a database record of all cases should be set up in order to establish actual figures [4].

Litigation not only causes anxiety for those individuals unfortunate enough to become involved, but also costs large amounts of money. In Nigeria, various bodies are trying to stem the growth in medical litigation by raising public awareness of the detrimental effects this is having on healthcare[4] notable examples are; Medical and Dental Council of Nigeria(MDCN), Nigeria Medical Association(NMA), Medical Protection Society(MPS). Concerns about malpractice litigation could have a negative impact on the delivery of health care. Radiographers stated fear of litigation as one of the main reasons for their lack of interest in specializing in mammography. More than a third of practicing radiographers are considering leaving the area of breast imaging because of this anxiety. Despite an increase in the number of women undergoing mammography, the number of radiographers performing them especially the males have fallen by 5% in the last three years [5]. Not only are radiographers retiring early and closing down practices, but also the costs of healthcare are spiraling, resulting in everyone having to pay more, whether the healthcare is funded by insurance companies or from government taxes. As the practice of radiography is fast growing in Nigeria, the likelihood that litigation cases against radiographers will be common in the future is highly anticipated [6]. Hence, the need to assess the awareness of radiographers on medical litigation in South Eastern Nigeria.

The healthcare system in South Eastern Nigeria has witnessed an increase in medical litigation cases, where patients allege medical malpractice or negligence. The rise in litigation makes it questionable whether radiographers are aware of medical litigation and its consequences, it also raises concerns about the quality of healthcare services, patient safety, and the overall trust in the healthcare system [7]. Understanding the factors contributing to medical litigation in this region is crucial for identifying areas of improvement and implementing effective measures to prevent medical errors, protect patients' rights, and enhance the overall healthcare experience in south eastern Nigeria, hence the study. Therefore, this study is aimed at assessing the level of awareness of medical radiographers about medical litigation in South Eastern Nigeria.

Materials and Methods:-

Research design

This was a prospective, cross-sectional study.

Area of the study

The study was conducted primarily in six federal government owned hospitals in South Eastern Nigeria. These hospitals include: University of Nigeria Teaching Hospital, ItukuOzalla (UNTH), National Orthopedic Hospital Enugu (NOHE), Nnamdi Azikiwe Teaching Hospital, Nnewi (NAUTH), Federal Teaching Hospital, Abakaliki (FETHA), Federal Medical Centre, Umuahia (FMC) and Federal Medical Centre, Owerri (FMC).

Population of the study

The study population comprised of radiographers working in the above-mentioned hospitals.

Sample size estimation

The minimum sample size (n) for this study was obtained using the statistical formula proposed by Yaro Yamane for a known population as shown below:

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{250}{1 + 250(0.05)^2}$$

where;

n represents the sample size.

N represents the target population (250)

e represents the margin of error (5%).

1 is a constant value

$$n = \frac{250}{1 + 250(0.05)^2}$$

$$n = \frac{250}{1 + 250(0.0025)}$$

$$n = \frac{250}{1 + 0.625}$$

$$n = \frac{250}{1.625}$$

$$n = 154$$

Therefore, the minimum sample size is 154.

Sampling technique

Convenience sampling method was adopted for the study. All radiographers who showed willingness to participate in the study were included.

Inclusion criteria

All practicing radiographers and interns in private or government owned hospitals in South Eastern Nigeria.

Radiographers who showed willingness to participate in the study.

Exclusion criteria

Radiographers that are not currently working in any private or government-owned hospitals. Other health workers. Radiographers who were unwilling to participate.

Instrument for data collection

A well-structured questionnaire was used for the collection of data. The questionnaire comprised of three sections: Section A was based on the socio-demographic information of the respondents. Section B was concerned with assessing the knowledge of medical litigation among practicing radiographer while section C focused on measures taken to reduce the incidence of medical litigation among practicing radiographers

Reliability of the instrument

Reliability of the instrument was ascertained by a pre-test where questionnaires were administered to practicing radiographers in Nnamdi Azikiwe University Teaching Hospital, Nnewi, Anambra equivalent to 10% of the total sample size. The questionnaire was distributed online to facilitate instant data collection, after completion responses

were tested for internal consistency using Cronbach's alpha test. A Cronbach coefficient value of 0.74 was gotten and this showed that the instrument was highly reliable.

Method of Data Collection:-

Well-structured questionnaires were used for data collection and was structured in accordance to the objectives of the research. A total of 250 well composed questionnaires (digital) were distributed to the sample for data collection. These were filled, collated and then the information provided were extracted and analyzed.

Method of data analysis

The data was analyzed using Microsoft statistical software package for social sciences (SPSS) version 23.0 and also the Pearson coefficients among the study parameters were determined. The demographics were analyzed using descriptive statistics.

The data was analyzed using both quantitative and qualitative method. Quantitative data was analyzed using tables for frequency and percentage while qualitative data was analyzed by sorting the respondents' opinion into common themes, patterns and similarities.

Results:-

A total of 250 questionnaires was administered to the respondents in the various aforementioned hospitals as depicted in Table 4.1 below, a total number of 69 males (44.8%) and 85 females (55.2%) participated in the study; 150 respondents (97.4%) were within the age range of 21-35years, 3 respondents (1.9%) were within the age range of 36-50years and 1 respondent (0.6%) were 51years and above. 133 respondents (86.4%) are interns/corps members, 13 respondents (8.4%) are basic radiographers, 5 respondents (3.2%) are senior/principal radiographers, 3 respondents (1.9%) are assistant chief/chief radiographers. 141 respondents (92.2%) have practiced for <1-5years, 6 respondents (3.9%) have practiced for 6-10years, 5 respondents (3.3%) have practiced for 11-15years and 1 respondent (0.7%) has practiced for 21years and above. 114 Respondents (74.5%) has B.sc, 12 respondents (7.8%) has M.sc, 2 respondents (1.3%) have Ph.D and 25 respondents (16.3%) have other certifications as their highest qualification level. 9 respondents (5.8%) work at University of Nigeria teaching Hospital (UNTH), 1 respondents (0.6%) worked at National Orthopedic Hospital Enugu (NOHE), 3 Respondents (1.9%) work at Federal Medical Center (FMC) Umuahia, 62 Respondents (40.3%) work(ed) at Nnamdi Azikiwe University Teaching Hospital (NAUTH), 2 Respondents (1.3%) work at Federal Medical Center (FMC) Owerri, 4 Respondents (2.6%) works at Federal Teaching Hospital Abakaliki (FETHA) while 73 Respondents (47.4%) work at other health centres in South East.

Table 1:- Demographic characteristics of the Respondents (n=154)

Variables	Frequency	Percentage (%)
Gender		
Female	85	55.2
Male	69	44.8
Total	154	100.0
Age (Years)		
21-35	150	97.4
36-50	3	1.9
51 and above	1	0.6
Total	154	100
Rank		
Intern/corps members	133	86.4
Basic radiographer	13	8.4
Senior/principal radiographer	5	3.2
Assistant Chief/ Chief Radiographer	3	1.9
Total	154	100
Years of Practice		
<1-5	141	92.2
6-10	6	3.9
11-15	5	3.3

21 and above	1	0.7
Total	154	100
Highest qualification Level		
B.sc	114	74.5
M.sc	12	7.8
Ph.D	2	1.3
Others	25	16.3
Total	154	100
Hospital of Practice		
UNTH	9	5.8
NOHE	1	0.6
FMC Umuahia	3	1.9
NAUTH	62	40.3
FMC Owerri	2	1.3
FETHA	4	2.6
Others	73	47.4
Total	154	100

Table 2 below shows the correlation between rank and awareness of Medical Litigation among practicing Radiographers. The result showed statistical significance between the two (2) variables, that is rank and awareness of Medical Litigation.

Table 2:- To determine if there's a correlation between rank of Radiographers and awareness of medical Litigation (n=154)

Variables	p-value	r-value
Rank versus medical Litigation	0.002	0.337

Table 3: To determine if a correlation exist between gender of radiographers and awareness of medical Litigation (n=154)

Variables	p-value	r-value
Gender versus Medical Litigation	0.314	0.110

Table 3 shows the correlation between gender and awareness of medical litigation amongst practicing Radiographers. The result showed no statistical significance between the two (2) variables, that is gender and awareness of medical litigation.

As depicted in table 4 below, a total number of 154 respondents participated in a study analyzing the factors that reduce the incidence of medical litigation amongst medical radiographers practicing in some selected hospitals expressed in frequencies and percentages. 113 (73.3%) respondents strongly agreed that Radiographers must obtain informed consent before carrying out any procedure, 110 (71.4%) respondents strongly agreed that each procedure should be explained in plain language to patients and female patients of child bearing age should be assessed for pregnancy before procedure, 102 (66.2%) strongly agreed that the course called Medical Litigation should be included into the undergraduates curriculum, 98 (63.6%) of the Respondents strongly agreed that all newly employed radiographers should be sensitized about Medical Litigation, 106 (68.8%) strongly agreed that unstable patients must be accompanied by doctor/nurse and relatives, 90 (58.4%) strongly agreed that Hospitals should provide strict guidelines and outline penalties for breach of standard of practice.

SA= strongly agreed, A= Agreed, U= Undecided, D= Disagree, SD= Strongly Disagree.

Table 4:- To assess measures that can be put in place to reduce medical Litigation amongst practicing radiographers. (n= 154)

SN	Factors	SA (%)	A (%)	U (%)	D (%)	SD (%)
1	Radiographers must obtain informed consent before carrying out any procedure	113 (73.3)	39 (25.3)	0(0)	4 (2.5)	0(0)

2	Radiographers should endeavor to explain each procedure in plain language to patients	110 (71.4)	43 (27.9)	0 (0)	3 (1.9)	0(0)
3	The course called Medical Litigation should be introduced into the undergraduate curriculums	102 (66.2)	48 (31.2)	1 (0.6)	4 (2.5)	0(0)
4	All newly employed radiographers should be sensitized about medical litigation	98 (63.6)	54 (35.1)	3 (1.9)	0(0)	0(0)
5	Ascertain the pregnancy status of all female patients of child bearing age before carrying out radiographic procedures	112 (72.7)	41(26.6)	2(1.3)	0(0)	0(0)
6	Unstable Patients must be accompanied by the doctor/nurse and relatives	106 (68.8)	47 (30.5)	4 (2.5)	0 (0)	0(0)
7	Timely delivery service to patients	95 (61.7)	56 (36.4)	2 (1.3)	0(0)	0(0)
8	Quality assurance practices should be put in place	99 (64.3)	52 (33.8)	1 (0.6)	1 (0)	1(0)
9	Hospitals should provide strict guidelines and outline penalties for breech in the standard of practice	90 (58.4)	58 (37.7)	3 (1.9)	1(0.6)	2(1.3)
10	Proper documentation and record keeping	95 (61.7)	57 (37)	2 (1.3)	0(0)	0(0)
11	Proper diagnosis and accuracy	106 (68.8)	47 (30.5)	1(0.6)	0(0)	0(0)

Table 5 below, shows the mean and Standard Deviation of Factors that are involved in the reduction of the incidence of Medical Litigation among Practicing Medical Radiographers. The mean for Radiographers obtaining informed consent is 4.71 while the standard deviation is 0.46, the obtained mean for all newly employed staff being sensitized about Medical Litigation is 4.11 and the standard deviation is 0.62. That of proper documentation and record keeping is mean of 4.47 and standard deviation of 0.5.

Table 5:- Factors that reduce the incidence of Medical Litigation amongst Practicing Medical Radiographers (n=86)

SN	Factors	Mean	Standard Deviation
1	Radiographers must obtain informed consent before carrying out any procedure	4.70	0.58
2	Radiographers should endeavor to explain each procedure in plain language to patients	4.69	0.54
3	The course called Medical Litigation should be introduced into the undergraduate curriculums	4.60	0.64
4	All newly employed radiographers should be sensitized about medical litigation	4.61	0.58
5	Ascertain the pregnancy status of all female patients of child bearing age before carrying out radiographic procedures	4.70	0.54
6	Unstable Patients must be accompanied by the doctor/nurse and relatives	4.63	0.63
7	Timely delivery service to patients	4.58	0.58
8	Quality assurance practices should be put in place	4.60	0.61
9	Hospitals should provide strict guidelines and outline penalties for breech in the standard of practice	4.51	0.69
10	Proper documentation and record keeping	4.59	0.57
11	Proper diagnosis and accuracy	4.68	0.51

Discussions:-

It can be inferred from the results that 69 (45%) out of the 154 of the radiographers are males while 85 (55%) are females. Majority of the Radiographers 150 (97%) were aged between 21-35 years. 133 (86%) had years of experience of the range of 1-5years. Also, the highest level of educational qualification was Ph.D 2 (1.3%).

The results from the analysis of correlation between the rank of radiographers and awareness of medical litigation using spearman's correlation depicted that there is significant relationship between the two variables ($p=0.002$, $r=0.337$). r the coefficient of correlation is 0.337 and this implies that the awareness of Medical Litigation has a

moderate positive relationship with the rank of radiographers. The positive relationship of awareness of medical litigation and rank of radiographers is in consonance with the findings of [8] who noted that the probability of getting sued increases with age among health practitioners and is not surprising given that older health practitioners have had more exposure to risk of lawsuits because they have been practicing for longer periods of time. This directly increases their awareness of medical Litigation. The results from the analysis of correlation between the gender of Radiographers and awareness of medical Litigation using spearman's correlation depicted that there is no significant relationship between the two variables ($p=0.314$, $r=0.110$). r the coefficient of correlation is 0.110 and this implies that the awareness of medical litigation has a very low relationship with the gender of radiographers. This agrees with [9] who opined that there is no significant relationship between the two as well.

This study has showed that a number of factors contribute in reducing the occurrence of medical Litigation amongst the respondents. They include obtaining informed consent before carrying out any procedures 113(73.3%), endeavoring to explain each procedure in plain language to the patients 110(71.4%), sensitizing newly employed radiographers about medical litigation 98(63.6%), Ascertaining the pregnancy status of all female patients of child bearing age before carrying out radiographic procedures 112(72.7%), timely delivery service to patients 95(61.7%), providing strict guidelines and outline penalties for breach in the standard of practice by hospitals, proper documentation and record keeping 90 (58.4%), proper diagnosis and accuracy 106(68.8%).

There is a significant correlation between rank of medical radiographers and their awareness of medical litigation [10]. There is no significant correlation between gender of medical radiographers and their awareness of medical litigation [11]. There are certain factors that reduce the incidence of medical litigation amongst practicing medical radiographers. Some of which are obtaining informed consent, explaining procedures in plain language to the patient, proper documentation and diagnosis, ascertaining pregnancy status of all female patients of child bearing age [12]. Newly employed medical radiographers should be sensitized about Medical Litigation by the hospital management this is because from the study, we realized that rank of medical radiographers has a significant positive relationship with awareness of medical litigation. Therefore, sensitizing newly employed staffs about medical litigation will improve their awareness of it. The course called medical litigation should be introduced into the undergraduate curriculum [13], this will increase the awareness of medical litigation amongst undergraduates and will be of significant help in their practice years. Obtaining informed consent, explaining procedures in plain terms to patients and ascertaining pregnancy status of all female of child bearing age before carrying out procedures are some of the strong factors that reduce the incidence of medical litigation and making these factors hospital policies is highly recommended [14]. This will reduce medical litigation amongst medical radiographers. Unwillingness of some radiographers to fill the questionnaires at the time of administering them. This affected data collection. Some of the radiographers were not available to fill the form

Conclusion:-

The study revealed that there is a significant correlation between rank of respondents and awareness of medical litigation. The higher the rank, the more the awareness of medical litigation. However, the study further showed factors that reduce the incidence of Medical Litigation amongst Medical Radiographers such as taking informed consent, explaining procedures in plain term to patients, ascertaining the pregnancy status of female patients of child bearing age before carrying out any procedure, proper diagnosis and documentation of procedures. Finally, the gender of a radiographer has no significant correlation with awareness of medical litigation.

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