

Medical Ethics and Dilemma in Patient Treatment: A Cross Sectional Survey of Doctors in a Developing Country

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Abstract

Medical ethical dilemma is a branch of moral philosophy that deals with conflicts in medical obligations/duties of healthcare providers while administering care on patents. The knowledge and practice of these obligations/duties by physicians have rarely been investigated in Nigeria. This was a cross sectional study conducted amongst 203 medical doctors with a response rate of 68.9%. Both descriptive and inferential statistics were used in the analysis of this work. The prevalent dilemmas encountered by the doctors were that of end of life (75.0%), resource allocation (61.4%), discharge against medical advice (61.4%) and religion and culture (60.7%), while that of informed consent (48.6%) was average. The incidence of conflict of interest (41.4%) and confidentiality (39.3%) were low. The knowledge of medical ethics is low while the associated dilemma is high. The associated dilemmas in medical obligations are grossly high especially amongst the younger and junior doctors. Given changing medical technologies that sustain and prolong life, excessive demand for medical care by the public and the associated cost of medical care, more medical ethical dilemmas are expected. This calls for the inclusion of medical bioethics in the curricular of doctor trainees and medical license renewals should be based on further certification on bioethics.

Background

Ethics has Greek roots meaning philosophical understanding into good and bad. A Code of Ethics defines what constitutes "good" or "right" behaviour (Burns, 2012). Medical ethics deals with moral philosophy which is about conflicts in obligations/duties in medical treatment and decision-making. Two types of thought exist in ethics about decision-making: deontological and utilitarian. Deontological approach believes that outcomes/consequences may not justify the means to achieving it, while the utilitarian approach believes that outcomes determine the means and greatest benefit expected for the greatest number (Jharna et al., 2016). Ethics in medicine guides good medical practice. It deals with the moral dilemmas faced by providers as a result of conflicts in duties/obligations and the resultant consequences. They are based on four fundamental

principles of autonomy (patient's right to self-determination), beneficence (patient's best interest comes first), nonmaleficence (do no harm to the patient), and justice (treating like patients alike, without discrimination) (Jharna et al., 2016). Modern medical ethics deals mostly with the moral dilemmas concerning patient's autonomy and the principles of informed consent and confidentiality. Ethics is also concerned with choices, decisions/actions by a doctor for the best interest of the patient anchored on the doctor's obligations to protect him (Jharna et al., 2016). Ethical practice uses these principles in a systematic approach in decision-making. It is understood that while these definitions are clear to express, exceptions usually arise in each of them during clinical practice for instance, a doctor who owes a duty to both patient and society may face the issue of breach of confidentiality (Jharna et al., 2016). In the same vein, the principles of autonomy and informed consent may be breached in the care of newborn, mentally handicapped or patients in the permanent vegetative state (Jharna et al., 2016).

On the other hand, utilitarian approach believes that decisions are made based on the benefits obtained for the greatest number of individuals. Utilitarianism is also known as the consequentialist approach because outcomes determine the morality of the intervention used. This approach though could lead to some individuals being harmed, but the considered net outcome remains maximum benefit to the society (Mack, 2004). Example of this approach in medical care includes setting targets by hospitals for resuscitation of premature newborns (Mack, 2004).

In variance from utilitarianism, deontology is ethics where morality of action depends on the nature of the action as it proposes that harm is unacceptable irrespective of its consequences (Garbutt et al., 2011). In this approach, decisions made based on deontology may be appropriate for an individual patient but not necessarily for the society as a whole. This approach typically represents the doctor-patient relationship and in line with medical teaching practices. A breach of this relationship will normally result in medical negligence. This approach makes it possible for clinicians to do good to patient which strengthen their relationship. The deontological ideologists including doctors and other medical staffs usually hold on to this approach (Garbutt et al., 2011). But the question arises as to how much doctors do encounter and know about medical ethical dilemma in medical practice. First a doctor must recognize the situation that constitutes medical ethical dilemma before reacting to it. In this study, groups of doctors of different specialties from the University of Nigeria Teaching Hospital were investigated on their knowledge and reactions about medical ethical dilemma. This paper was aimed at understanding the frequency of different groups (medical specialties) encounter with medical ethical dilemmas and reactions in dealing with it in the process of patient care. It is believed that patients stand to benefit when situations of medical ethical dilemmas are recognized and are properly considered given the patient's best interest and welfare. To enable this investigation, scenarios of medical ethical dilemmas were posed to the doctors in form of questions to understand how often each group (medical specialty) has encountered and reacted to them and subsequently the different groups were compared to observe variations and associations in their responses. The medical ethical dilemmas posed to the doctors that eventually led to the literature review were based on the followings: Informed consent, confidentiality of patient information, conflict of interest, discharge against medical advice, religion and culture and end of life issues. Recommendations following the results were on improving the recognition of medical ethical dilemmas amongst groups (specialties) and how best to protect patients' best interest.

A study reports that medical officers, senior registrars and consultants followed by registrars and

then house officers were identified the most respectively in the encounter of medical ethical dilemmas in daily medical practice by doctors (Fadare et al., 2012). The analysis of the identified medical ethical dilemmas indicates that discharge against medical advice was the most encountered by the respondents (doctors) followed by religious/cultural issues, and then confidentiality of medical information. Other types of medical ethical dilemmas reported according to the report were informed consent, truth telling, conflict of interest, end of life issues, and allocation of resources all in descending order. Confidentiality of patient information, discharge against medical advice (DAMA), religion and culture, and informed consent were the most recognized of medical ethical dilemmas by the respondents followed by knowledge about just allocation of resources, conflict of interest, and end of life matters which were poor (Fadare et al., 2012). A study in Norway concerning ethical dilemmas faced by surgeons in a hospital found no gender difference in the kinds of ethical dilemmas identified among male and female surgeons. The main finding was that surgeons experienced difficulty in deciding the right treatment in different situations. The dilemmas included starting or withholding treatment, continuing or withdrawing treatment, overtreatment, respecting the patients and meeting patients' expectations (Torjuul et al., 2005). The focus in the narratives according to the doctors was on ethical dilemmas bordering on the patients' well-being, treatment and care. The surgeons' narratives were about whether they should act according to their own convictions or according to the opinions of principal colleagues or colleagues from other departments. Handling incompetent colleagues was also seen as an ethical dilemma in the same study. Prioritization of limited resources by following social laws and regulations constituted ethical dilemmas when they contradicted what the surgeons believed was in the patients' best interests ((Torjuul et al., 2005). The physicians and surgeons equally expressed a decrease in their autonomy because more external factors and stakeholders were influencing their decisions about patients' treatment (Torjuul et al., 2005; McCullough, 1998; Nandi, 2000; Rothman, 1991) which to them constituted dilemma because they were confused about which line of action to follow. The surgeons also argued that they have been put under heavy political and administrative pressures to reduce costs to a much larger extent than other medical specialists and this they believed constituted dilemma having to choose between promoting the patients' health interests and the economic interest of the hospital and of the society (Torjuul et al., 2005; Armstrong, 2012; Axelrod et al; 2000). In a focus group interview in the Netherlands, physicians and Nurses admitted that in the course of intensive care unit (ICU) admission and discharge, ethical problems do arise at different points in time especially when deciding about patients' admission from the emergency room, operating theatre or a general ward (Anke et al; 2015). Admission into the ICU is often delayed or sometimes even refused, and elective surgeries are cancelled because no post-surgery ICU bed is available. This situation often leads to negative consequences and frustration for the patient and his family, as well as the provider in question. At the heart of this moral distress is the desire by the doctor to provide the best care possible, but unable to do so for reasons beyond his control (Anke et al; 2015).

There is paucity of empirical studies exploring medical ethical dilemmas amongst physicians during patient care especially in the African context. This study was to add to the pioneering studies by looking at the knowledge base of physicians in this topical issue they had to face daily in our hospitals. Our study looked at the frequency of the different physician groups' knowledge of ethical dilemmas faced by them and their reactions in daily medical practice. Based on our findings we made recommendations on how to better the physicians' capacity to handle medical

ethical dilemmas for patients' best interest.

Methods

Study Area

This study was carried out in one of the government-owned hospitals in Enugu metropolis. Enugu is the capital of Enugu State of Nigeria created in 1991. It consists of three local government areas: Enugu North, Enugu South and Enugu East. Enugu can be described as the political centre of the five states of the South Eastern Nigeria (Anambra, Enugu, Imo, Abia and Eboyi states) being the capital of the defunct Eastern region of Nigeria. The hospital where this work was carried out is the University of Nigeria Teaching Hospital (UNTH). This hospital has several types of health workers under her employment. Among these are medical doctors of all categories who happened to be the study population (LOGBABY.com.)

Study Design and brief history of University of Nigeria Teaching hospital

This was a cross sectional study conducted amongst doctors at the University of Nigeria Teaching Hospital in Enugu, Enugu State of Nigeria. The University of Nigeria Teaching Hospital (UNTH) began early in the 20th century as a standard general Hospital for Africans built by the colonial administrators. It later metamorphosed into a general hospital on the attainment of Nigeria's independence in the 1960's. However, at the end of the Nigerian civil war in 1970, the then government of East Central State transformed it into a Specialist Hospital with effect from July 1, 1970. At this time, the hospital had a total of 50 doctors, 10 wards, and 300 beds and a chest bay of 60 beds. There are also 350 nurses working in the Hospital. Today, the situation has changed dramatically. The bed capacity of the hospital in the permanent site is over 500 beds and the number of its personnel (professional and non-professional) has increased tremendously. There are nine training schools/programmes in the hospital viz: the School of Nursing, Midwifery, Medical Laboratory Science, Nurse Anesthetists, Community Health and Post Ophthalmic Nursing. Others are Peri-Operative Nursing, Cardiothoracic Nursing and Medical Records [13].

Study Population

The sample population for this study comprised of all the Medical Doctors in the University of Nigeria Teaching Hospital who were two hundred and three (203) in number as at the time of this study and includes: house officers (interns), medical officers, resident doctors (registrars and senior registrars) and consultants. Medical officers are post-internship doctors who are yet to commence residency training.

Sample population and Sample size

The University of Nigeria Teaching Hospital as at the time of this study in February, 2016 comprised of two hundred and three (203) medical doctors with different designations as house officers, medical officers (registrars, senior registrars) and consultants. Due to the manageable size of the sample population, all the doctors were included in the study. However one hundred and forty (140) doctors were able to fill and return their questionnaires giving a response rate of 68.9%. The questionnaire was made up of two sections: A and B. Section A focused on the respondents' bio-data such as age, rank and gender. Section B focused on the respondents' knowledge of ethical issues and dilemma in medical practice. The respondents verbally consented to partake in the study as approved by the University of Nigeria ethics review committee. The response distribution was as follows: house officers (56), medical officers (21) registrars (40), senior registrars (15) and consultants (8).

The questionnaire

Pre-test and pilot test of the data collection instrument

The instrument was face validated by three researchers from the Faculty of Health Sciences and Technology, University of Nigeria, Enugu Campus. They were presented with the topic, purpose of the study, research questions and hypotheses of the study. They were requested to examine the entire items on the study instrument and determine their appropriateness, adequacy and clarity with reference to the purpose of the study, research questions and hypotheses.

In addition, the questionnaire was first pre-tested using doctors from another hospital four months earlier. This was done to measure the doctors' understanding of the contents of the questions and to measure how the understanding of the questions were agreeable and same among the respondents and the researchers. Questions that were confusing and did not make any sense to the doctors were either amended or discarded.

The questionnaire for eliciting responses from the doctors on their knowledge of Medical ethical dilemmas in the process of treating patients was made up of two sections: A (socio-demographics) and B (knowledge of ethical dilemma). See the questionnaire: File 1 (Title=questionnaire, Description of data=questions for data collection)

SECTION A

1. What is your age?

(a) 25 – 34 years	<input type="checkbox"/>	(b) 35 – 44	<input type="checkbox"/>
(c) 45 - 54		(d) 55 – above	
2. What is your gender?

(a) Male	<input type="checkbox"/>	(b) Female	<input type="checkbox"/>
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3. What is your present rank?

(a) House officer	<input type="checkbox"/>	(b) Medical officer	<input type="checkbox"/>
(c) Registrar	<input type="checkbox"/>	(d) Senior registrar	<input type="checkbox"/>
4. What is your area of specialty?

(a) Community health		(b) Surgery	<input type="checkbox"/>
(c) Internal medicine	<input type="checkbox"/>	(d) Paediatrics	<input type="checkbox"/>
(e) Obstetrics and Gynaecology	<input type="checkbox"/>		<input type="checkbox"/>

SECTION B: What are the ethical dilemmas you have encountered as a medical doctor?

Principles	Informed consent		Confidentiality		Resource allocation		Conflicting interest		DAMA*		Religion & culture		End of life	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
House officers														
Medical officers														
Junior														

Registrars														
Senior Registrars														
Consultants														

*DAMA = Discharge Against Medical Advice

Method of Data Analysis

Both descriptive and inferential statistics were used in the analysis of this work. The descriptive statistics---frequency and percentage were used to summarize the items on doctors' characteristics and the level of the different ethical dilemmas encountered. The inferential statistics--Chi-Square Test for Homogeneity of Proportion was used to compare between groups ethical dilemma levels; that is, variations in the different ethical dilemmas with regard to the doctors' characteristics. The different ethical dilemmas were used to generate an ethical dilemma scores for each doctor, which becomes the sum of ethical dilemmas encountered by the doctor at the end. This ethical dilemma score was categorized into a binary variable--much ethical dilemma (no. of dilemmas = 4-7) and less ethical dilemma (no. of dilemmas = 0-3). The binary variable termed ethical dilemma served the purpose for the computation of overall ethical dilemma encountered, variations in overall ethical dilemma encountered and logistic regression. In the logistic regression performed, the doctors' characteristics served as the predictors while the ethical dilemma (much ethical dilemma or less ethical dilemma) served as the predicted variable. These statistical techniques were done using the IBM SPSS version 20. See File 2 (Title=SPSS data entry, Description of data=data entry for analysis).

Results

Tables

Table 1: Characteristics of the Participants

n = 140

	Groups	Frequency	Percent
Age	25-34 years	69	49.3
	35-44 years	54	38.6
	45-54 years	10	7.1
	55+ years	7	5.0
Gender	Male	85	60.7
	Female	55	39.3
Present rank	House officer	56	40.0
	Medical officer	21	15.0
	Registrar	40	28.6
	Senior registrar	15	10.7
	Consultant	8	5.7

Area of specialty	Community health	32	22.9
	Surgery	23	16.4
	Internal medicine	31	22.1
	Paediatrics	28	20.0
	Obstetrics & Gynaecology	26	18.6
Knowledge source of code of medical ethics	Undergraduate medical school	128	91.4
	Internet and medical journals	12	8.6
	Continuous medical education	0	0.0
	Extra courses	0	0.0
	Post graduate medical school	0	0.0
Knowledge of the supervising body of all medical ethical issues	Correct (National Health Research Ethics Committee)	82	58.6
	Incorrect	57	40.7

Missing data exists in item if total frequency is less than 140

Table 1 displays the socio-demographic data of the doctors. Most of them were aged between 25-44 years (87.9%). Males (60.7%) were more than females (39.3%). Greater part of the participants was house officers (40.0%) followed by junior registrars (28.6%). In area of specialty, community health doctors (22.9%), internal medicine doctors (22.1%) and paediatricians (20.0%) were more. Almost all the doctors obtained their knowledge of the code of medical ethics from undergraduate medical school (91.4%) while very many knew the supervising body of all medical ethical issues (58.6%).

Table 2: Assessment of Ethical Dilemma Encountered by Doctors

		Frequency	Percent
Informed consent	Yes	68	48.6
	No	71	50.7
Confidentiality	Yes	55	39.3
	No	85	60.7
Resource allocation	Yes	86	61.4
	No	54	38.6
Conflicting interest	Yes	58	41.4
	No	82	58.6
Discharge against medical advice	Yes	86	61.4
	No	54	38.6
Religion and culture	Yes	85	60.7

	No	55	39.3
End of life	Yes	105	75.0
	No	35	25.0
Overall ethical dilemma encountered	Less (≤ 3 dilemmas)	59	42.1
	Much (> 3 dilemmas)	81	57.9

Table 2 displays the assessment of the ethical dilemma encountered by doctors. The prevalent dilemma encountered by the doctors was that of end of life (75.0%). Prevalence of resource allocation (61.4%), discharge against medical advice (61.4%) and religion and culture (60.7%) were also high while that of informed consent (48.6%) was middling. The prevalence of conflicting interest (41.4%) and confidentiality (39.3%) was low. In general, greater parts of the doctors have encountered much ethical dilemmas (57.9%).

Table 3: Variations in Informed Consent Dilemma Encountered by Doctors.

		Informed Consent			χ^2	df	p
		Yes	No	Total			
Age	25-34 years	35(51.5)	33(48.5)	68(100.0)	.349	2	.840
	35-44 years	25(46.3)	29(53.7)	54(100.0)			
	45+ years	8(47.1)	9(52.9)	17(100.0)			
	Total	68(48.9)	71(51.1)	139(100.0)			
Gender	Male	38(45.2)	46(54.8)	84(100.0)	1.152	1	.283
	Female	30(54.5)	25(45.5)	55(100.0)			
	Total	68(48.9)	71(51.1)	139(100.0)			
Rank	House officer	30(54.5)	25(45.5)	55(100.0)	1.748	4	.782
	Medical officer	8(38.1)	13(61.9)	21(100.0)			
	Registrar	19(47.5)	21(52.5)	40(100.0)			
	Senior registrar	7(46.7)	8(53.3)	15(100.0)			
	Consultant	4(50.0)	4(50.0)	8(100.0)			
	Total	68(48.9)	71(51.1)	139(100.0)			
Area of specialty	Community health	22(71.0)	9(29.0)	31(100.0)	15.603	4	.004
	Surgery	9(39.1)	14(60.9)	23(100.0)			
	Internal medicine	9(29.0)	22(71.0)	31(100.0)			
	Paediatrics	18(64.3)	10(35.7)	28(100.0)			
	Obstetrics & Gynaecology	10(38.5)	16(61.5)	26(100.0)			
	Total	68(48.9)	71(51.1)	139(100.0)			
Knowledge source	Undergraduate medical school	67(52.8)	60(47.2)	127(100.0)	8.658	1	.003

	Internet and medical journals	1(8.3)	11(91.7)	12(100.0)			
	Total	68(48.9)	71(51.1)	139(100.0)			
Knowledge of supervising body	Correct	38(46.9)	43(53.1)	81(100.0)	.210	1	.646
	Incorrect	29(50.9)	28(49.1)	57(100.0)			
	Total	67(48.6)	71(51.4)	138(100.0)			

Table 3 displays the variations in informed consent dilemma encountered by doctors. In age ($p = .840$), gender ($p = .283$), rank ($p = .782$) and knowledge of supervising body ($p = .646$), there was no significant difference between groups in the dilemma encountered. This implies that the prevalence of the dilemma among doctors of the different age groups- 25-34 years (51.5%), 35-44 years (46.3%) and 45 years and above (47.1%) was the same. Likewise, the prevalence between male (45.2%) and female (54.5%) doctors; among doctors of different ranks- house officers (54.5%), medical officers (38.1%), registrars (47.5%), senior registrars (46.7%) and consultants (50.0%); between doctors with correct (46.9%) and incorrect (50.9%) knowledge of the supervising body of medical ethical issues was the same. In the area of specialty ($p = .004$) and knowledge source of the code of medical ethics ($p = .003$), there were significant differences between groups. In area of specialty, the dilemma was prevalent among community health doctors (71.0%) and paediatricians (64.3%) than other specialties--surgeons (39.1%), obstetricians and gynaecologists (38.5%) and internal medicine doctors (29.0%). In knowledge source of code of medical ethics, the dilemma was prevalent among doctors whose knowledge source was the undergraduate medical school (52.8%) than those whose knowledge source was internet and medical journals (8.3%).

Table 4: Variations in Confidentiality Dilemma Encountered by Doctors.

		Confidentiality			χ^2	df	p
		Yes	No	Total			
Age	25-34 years	23(33.3)	46(66.7)	69(100.0)	5.634	2	.060
	35-44 years	21(38.9)	33(61.1)	54(100.0)			
	45+ years	11(64.7)	6(35.3)	17(100.0)			
	Total	55(39.3)	85(60.7)	140(100.0)			
Gender	Male	33(38.8)	52(61.2)	85(100.0)	.019	1	.889
	Female	22(40.0)	33(60.0)	55(100.0)			
	Total	55(39.3)	85(60.7)	140(100.0)			
Rank	House officer	15(26.8)	41(73.2)	56(100.0)	16.915	4	.002
	Medical officer	12(57.1)	9(42.9)	21(100.0)			
	Registrar	12(30.0)	28(70.0)	40(100.0)			
	Senior registrar	10(66.7)	5(33.3)	15(100.0)			
	Consultant	6(75.0)	2(25.0)	8(100.0)			
	Total	55(39.3)	85(60.7)	140(100.0)			

Area of specialty	Community health	19(59.4)	13(40.6)	32(100.0)	8.424	4	.077
	Surgery	8(34.8)	15(65.2)	23(100.0)			
	Internal medicine	9(29.0)	22(71.0)	31(100.0)			
	Paediatrics	8(28.6)	20(71.4)	28(100.0)			
	Obstetrics & Gynaecology	11(42.3)	15(57.7)	26(100.0)			
	Total	55(39.3)	85(60.7)	140(100.0)			
Knowledge source	Undergraduate medical school	53(41.4)	75(58.6)	128(100.0)	-	-	.126*
	Internet and medical journals	2(16.7)	10(83.3)	12(100.0)			
	Total	55(39.3)	85(60.7)	140(100.0)			
Knowledge of the supervising body	Correct	31(37.8)	51(62.2)	82(100.0)	.260	1	.610
	Incorrect	24(42.1)	33(57.9)	57(100.0)			
	Total	55(39.6)	84(60.4)	139(100.0)			

* Fishers Exact Test computed

Table 4 displays the variations in confidentiality dilemma encountered by the doctors. In age ($p = .060$), gender ($p = .889$), area of specialty ($p = .077$), knowledge source of the code of medical ethics ($p = .126$) and knowledge of the supervising body of all medical ethics ($p = .610$), there was no significant difference between groups. This implies the doctors by their age groups- 25-34 years (33.3%), 35-44 years (38.9%) or 45 years and above (64.7%); by their gender- male (38.8%) or female (40.0%); by their area of specialty- community health (59.4%), surgery (34.8%), internal medicine (29.0%), paediatrics (28.6%) or obstetrics and gynaecology (42.3%); by their knowledge source of the code of medical ethics- undergraduate medical school (41.4%) or internet and medical journal (16.7%); and by their knowledge of the supervising body of all medical ethics- correct knowledge (37.8%) or incorrect knowledge (42.1%), did encounter confidentiality dilemma at the same level. However in rank, there was significant difference between groups, $p = .002$. Consultants (75.0%), senior registrars (66.7%) and then medical officers (57.1%) did encounter the dilemma more than the registrars (30.0%) and the house officers (26.8%).

Table 5: Variations in Resource Allocation Dilemma Encountered by Doctors.

		Resource Allocation			χ^2	df	p
		Yes	No	Total			
Age	25-34 years	37(53.6)	32(46.4)	69(100.0)	5.935	2	.051
	35-44 years	40(74.1)	14(25.9)	54(100.0)			
	45+ years	9(52.9)	8(47.1)	17(100.0)			
	Total	86(61.4)	54(38.6)	140(100.0)			
Sex	Male	54(63.5)	31(36.5)	85(100.0)	.403	1	.526
	Female	32(58.2)	23(41.8)	55(100.0)			
	Total	86(61.4)	54(38.6)	140(100.0)			

Rank	House officer	29(51.8)	27(48.2)	56(100.0)	11.174	4	.025
	Medical officer	14(66.7)	7(33.3)	21(100.0)			
	Registrar	32(80.0)	8(20.0)	40(100.0)			
	Senior registrar	6(40.0)	9(60.0)	15(100.0)			
	Consultant	5(62.5)	3(37.5)	8(100.0)			
	Total	86(61.4)	54(38.6)	140(100.0)			
Area of specialty	Community health	16(50.0)	16(50.0)	32(100.0)	4.799	4	.309
	Surgery	17(73.9)	6(26.1)	23(100.0)			
	Internal medicine	20(64.5)	11(35.5)	31(100.0)			
	Paediatrics	15(53.6)	13(46.4)	28(100.0)			
	Obstetrics & Gynaecology	18(69.2)	8(30.8)	26(100.0)			
	Total	86(61.4)	54(38.6)	140(100.0)			
Knowledge source	Undergraduate medical school	76(59.4)	52(40.6)	128(100.0)	-	-	.129*
	Internet and medical journals	10(83.3)	2(16.7)	12(100.0)			
	Total	86(61.4)	54(38.6)	140(100.0)			
Knowledge of supervising body	Correct	50(61.0)	32(39.0)	82(100.0)	.003	1	.959
	Incorrect	35(61.4)	22(38.6)	57(100.0)			
	Total	85(61.2)	54(38.8)	139(100.0)			

* Fishers Exact Test computed

Table 5 displays the variations in resource allocation dilemma encountered by the doctors. In age ($p = .051$), gender ($p = .526$), area of specialty ($p = .309$), knowledge source of the code of medical ethics ($p = .129$) and knowledge of the supervising body of all medical ethical issues ($p = .959$), there was no significant difference between groups. This implies that although doctors aged 35-44 years (74.1%) were associated more with resource allocation dilemma, the difference as compared to other age groups- 25-34 years (53.6%) and 45 years and above (52.9%) was marginal. Likewise in gender- male (63.5%) and female (58.2%); in area of specialty- community health (50.0%), surgery (73.9%), internal medicine (64.5%), paediatrics (53.6%) and obstetrics and gynaecology (69.2%); in knowledge source of the code of medical ethics- undergraduate medical school (59.4%) and internet and medical journal (83.3%); and in knowledge of the supervising body of all medical ethical issues- correct knowledge (61.0%) and incorrect knowledge (61.4%), only marginal differences existed in the level at which resource allocation dilemma was encountered by the different groups. In rank however, the difference between groups- house officers (51.8%), medical officer (66.7%), registrars (80.0%), senior registrars (40.0%) and consultants (62.5%) in resource allocation dilemma encountered was significant, $p = .025$. The dilemma was most on the registrars and least on senior registrars.

Table 6: Variations in Conflicting Interest Dilemma Level Encountered by Doctors.

		Conflicting Interest			χ^2	df	p
		Yes	No	Total			
Age	25-34 years	18(26.1)	51(73.9)	69(100.0)	30.757	2	< .001
	35-44 years	23(42.6)	31(57.4)	54(100.0)			
	45+ years	17(100.0)	0(0.0)	17(100.0)			
	Total	58(41.4)	82(58.6)	140(100.0)			
Gender	Male	38(44.7)	47(55.3)	85(100.0)	.958	1	.328
	Female	20(36.4)	35(63.6)	55(100.0)			
	Total	58(41.4)	82(58.6)	140(100.0)			
Rank	House officer	12(21.4)	44(78.6)	56(100.0)	38.209	4	< .001
	Medical officer	10(47.6)	11(52.4)	21(100.0)			
	Registrar	14(35.0)	26(65.0)	40(100.0)			
	Senior registrar	14(93.3)	1(6.7)	15(100.0)			
	Consultant	8(100.0)	0(0.0)	8(100.0)			
	Total	58(41.4)	82(58.6)	140(100.0)			
Area of specialty	Community health	5(15.6)	27(84.4)	32(100.0)	12.578	4	.014
	Surgery	13(56.5)	10(43.5)	23(100.0)			
	Internal medicine	13(41.9)	18(58.1)	31(100.0)			
	Paediatrics	14(50.0)	14(50.0)	28(100.0)			
	Obstetrics & Gynaecology	13(50.0)	13(50.0)	26(100.0)			
	Total	58(41.4)	82(58.6)	140(100.0)			
Knowledge source	Undergraduate medical school	48(37.5)	80(62.5)	128(100.0)	-	-	.004*
	Internet and medical journals	10(83.3)	2(16.7)	12(100.0)			
	Total	58(41.4)	82(58.6)	140(100.0)			
Knowledge of supervising body	Correct	40(48.8)	42(51.2)	82(100.0)	4.092	1	.043
	Incorrect	18(31.6)	39(68.4)	57(100.0)			
	Total	58(41.7)	81(58.3)	139(100.0)			

* Fishers Exact Test computed

Table 6 displays the variations in conflicting interest dilemma encountered by the doctors. In gender, no significant difference between the proportion of male doctors (44.7%) and female doctors (36.4%) that have encountered the dilemma, $p = .328$. In age ($p < .001$), rank ($p < .001$), area of specialty ($p = .014$), knowledge source of the code of medical ethics ($p = .004$) and knowledge of the supervising body of all medical ethical issues ($p = .043$), significant difference

existed between groups with regards to the proportion that have encountered the dilemma. In age, doctors aged 45 and above (100.0%) encountered it more than the other age groups-35-44 years (42.6%) and 25-34 years (26.1%). In rank, consultants (100.0%) and senior registrars (93.3%) encountered the dilemma more than other ranks- house officers (21.4%), medical officers (47.6%) and registrars (35.0%). In area of specialty, community health doctors (15.6%) encountered it least compared to other specialties- surgeons (56.5%), internal medicine doctors (41.9%), paediatricians (50.0%) and obstetricians and gynaecologists (50.0%). In knowledge source of the code of medical ethics, doctors whose knowledge source was internet and medical journals (83.3%) encountered the dilemma more than those whose knowledge source was the undergraduate medical school (37.5%). In knowledge of the supervising body of all medical ethical issues, those with correct knowledge (48.8%) encountered it more than those with incorrect knowledge (31.6%).

Table 7: Variations in Discharge Against Medical Advice (DAMA) Dilemma Level Encountered by Doctors.

		DAMA		Total	χ^2	df	p
		Yes	No				
Age	25-34 years	54(78.3)	15(21.7)	69(100.0)	16.854	2	< .001
	35-44 years	23(42.6)	31(57.4)	54(100.0)			
	45+ years	9(52.9)	8(47.1)	17(100.0)			
	Total	86(61.4)	54(38.6)	140(100.0)			
Gender	Male	55(64.7)	30(35.3)	85(100.0)	.981	1	.322
	Female	31(56.4)	24(43.6)	55(100.0)			
	Total	86(61.4)	54(38.6)	140(100.0)			
Rank	House officer	43(76.8)	13(23.2)	56(100.0)	24.976	4	< .001
	Medical officer	17(81.0)	4(19.0)	21(100.0)			
	Registrar	16(40.0)	24(60.0)	40(100.0)			
	Senior registrar	4(26.7)	11(73.3)	15(100.0)			
	Consultant	6(75.0)	2(25.0)	8(100.0)			
	Total	86(61.4)	54(38.6)	140(100.0)			
Area of specialty	Community health	12(37.5)	20(62.5)	32(100.0)	13.411	4	.009
	Surgery	14(60.9)	9(39.1)	23(100.0)			
	Internal medicine	24(77.4)	7(22.6)	31(100.0)			
	Paediatrics	21(75.0)	7(25.0)	28(100.0)			
	Obstetrics & Gynaecology	15(57.7)	11(42.3)	26(100.0)			
	Total	86(61.4)	54(38.6)	140(100.0)			
Knowledge source	Undergraduate medical school	76(59.4)	52(40.6)	128(100.0)	-	-	.129*
	Internet and medical journals	10(83.3)	2(16.7)	12(100.0)			
	Total	86(61.4)	54(38.6)	140(100.0)			

Knowledge of supervising body	Correct	53(64.6)	29(35.4)	82(100.0)	1.021	1	.312
	Incorrect	32(56.1)	25(43.9)	57(100.0)			
	Total	85(61.2)	54(38.8)	139(100.0)			

*** Fishers Exact Test computed**

Table 7 displays the variations in discharge against medical advice dilemma encountered by the doctors. In gender ($p = .322$), knowledge source of the code of medical ethics ($p = .129$) and knowledge of the supervising body of all medical ethical issues ($p = .312$), the difference between groups in the level at which the dilemma was encountered was not significant. This implies that the dilemma was encountered at the same level by both male (64.7%) and female (56.4%) doctors; by both doctors whose knowledge source of the code of medical ethics was undergraduate medical school (59.4%) and those whose knowledge source was the internet and medical journal (83.3%) and by both doctors who knew the supervising body of all medical ethical issues (64.6%) and those who did not know (56.1%). In age ($p < .001$), however, there was significant difference between groups in the level at which the dilemma was encountered, and likewise in rank ($p < .001$) and area of specialty ($p = .009$). In age, discharge against medical advice was encountered more by younger doctors (78.3%) than others- 34-44 years (42.6%) and 45 years and above (52.9%). In rank, it was encountered more by medical officers (81.0%), house officers (76.8%) and consultants (75.0%) than the registrars (40.0%) and senior registrars (26.7%). In area of specialty, the dilemma was encountered least by community health doctors (37.5%) and most by internal medicine doctors (77.4%) and paediatricians (75.0%). Surgeons (60.9%) and obstetricians and gynaecologists (57.7%) were middling.

Table 8: Variations in Religion and Culture Dilemma Level Encountered by Doctors.

		Religion and culture			χ^2	df	p
		Yes	No	Total			
Age	25-34 years	33(47.8)	36(52.2)	69(100.0)	9.541	2	.008
	35-44 years	40(74.1)	14(25.9)	54(100.0)			
	45+ years	12(70.6)	5(29.4)	17(100.0)			
	Total	85(60.7)	55(39.3)	140(100.0)			
Gender	Male	48(56.5)	37(43.5)	85(100.0)	1.634	1	.201
	Female	37(67.3)	18(32.7)	55(100.0)			
	Total	85(60.7)	55(39.3)	140(100.0)			
Rank	House officer	27(48.2)	29(51.8)	56(100.0)	18.482	4	.001
	Medical officer	8(38.1)	13(61.9)	21(100.0)			
	Registrar	33(82.5)	7(17.5)	40(100.0)			
	Senior registrar	12(80.0)	3(20.0)	15(100.0)			
	Consultant	5(62.5)	3(37.5)	8(100.0)			
	Total	85(60.7)	55(39.3)	140(100.0)			
Area of	Community health	23(71.9)	9(28.1)	32(100.0)	9.139	4	.058

specialty	Surgery	18(78.3)	5(21.7)	23(100.0)			
	Internal medicine	14(45.2)	17(54.8)	31(100.0)			
	Paediatrics	14(50.0)	14(50.0)	28(100.0)			
	Obstetrics & Gynaecology	16(61.5)	10(38.5)	26(100.0)			
	Total	85(60.7)	55(39.3)	140(100.0)			
Knowledge source	Undergraduate medical school	80(62.5)	48(37.5)	128(100.0)	-	-	.217*
	Internet and medical journals	5(41.7)	7(58.3)	12(100.0)			
	Total	85(60.7)	55(39.3)	140(100.0)			
Knowledge of supervising body	Correct	44(53.7)	38(46.3)	82(100.0)	4.725	1	.030
	Incorrect	41(71.9)	16(28.1)	57(100.0)			
	Total	85(61.2)	54(38.8)	139(100.0)			

* Fishers Exact Test computed

Table 8 displays the variations in religion and culture dilemma encountered by the doctors. In gender ($p = .201$), area of specialty ($p = .058$) and knowledge source of the code of medical ethics ($p = .217$), there was no significant difference between groups. This implies the doctors of by their gender- male (56.5%) or female (67.3%); by their area of specialty- community health (71.9%), surgery (78.3%), internal medicine (45.2%), paediatrics (50.0%) or obstetrics and gynaecology (61.5%); and by their knowledge source of the code of medical ethics- undergraduate medical school (62.5%) or internet and medical journal (41.7%) did encounter religion and culture dilemma at the same level. However in age ($p = .008$), rank ($p = .001$) and knowledge of supervising body of all medical ethical issues ($p = .030$), there were significant differences among groups. In age, younger doctors- 25-34 years (47.8%) encountered the dilemma least compared to the older doctors- 35-44 years (74.1%) and 45 years and above (70.6%). In rank, medical officers (38.1%) and house officers (48.2%) encountered it least compared to other ranks- registrars (82.5%), senior registrars (80.0%) and consultants (62.5%). In knowledge of supervising body of all medical ethical issues, doctors with correct knowledge (53.7%) encountered the dilemma least than those with incorrect knowledge (71.9%).

Table 9: Variations in End of Life Dilemma Level Encountered by Doctors.

		End of Life			χ^2	df	p
		Yes	No	Total			
Age	25-34 years	54(78.3)	15(21.7)	69(100.0)	2.091	2	.351
	35-44 years	37(68.5)	17(31.5)	54(100.0)			
	45+ years	14(82.4)	3(17.6)	17(100.0)			
	Total	105(75.0)	35(25.0)	140(100.0)			
Gender	Male	68(80.0)	17(20.0)	85(100.0)	2.885	1	.089

Total	Female	37(67.3)	18(32.7)	55(100.0)			
		105(75.0)	35(25.0)	140(100.0)			
Rank	House officer	43(76.8)	13(23.2)	56(100.0)	2.381	4	.666
	Medical officer	17(81.0)	4(19.0)	21(100.0)			
	Registrar	27(67.5)	13(32.5)	40(100.0)			
	Senior registrar	11(73.3)	4(26.7)	15(100.0)			
	Consultant	7(87.5)	1(12.5)	8(100.0)			
	Total	105(75.0)	35(25.0)	140(100.0)			
Area of specialty	Community health	21(65.6)	11(34.4)	32(100.0)	2.29	4	.682
	Surgery	18(78.3)	5(21.7)	23(100.0)			
	Internal medicine	23(74.2)	8(25.8)	31(100.0)			
	Paediatrics	22(78.6)	6(21.4)	28(100.0)			
	Obstetrics & Gynaecology	21(80.8)	5(19.2)	26(100.0)			
	Total	105(75.0)	35(25.0)	140(100.0)			
Knowledge source	Undergraduate medical school	101(78.9)	27(21.1)	128(100.0)	-	-	.002*
	Internet and medical journals	4(33.3)	8(66.7)	12(100.0)			
	Total	105(75.0)	35(25.0)	140(100.0)			
Knowledge of supervising body	Correct	62(75.6)	20(24.4)	82(100.0)	.066	1	.797
	Incorrect	42(73.7)	15(26.3)	57(100.0)			
Total		104(74.8)	35(25.2)	139(100.0)			

* **Fishers Exact Test computed**

Table 9 displays the variations in end of life dilemma encountered by the doctors. In age ($p = .351$), gender ($p = .089$), rank ($p = .666$), area of specialty ($p = .682$) and knowledge of supervising body ($p = .797$), there was no significant difference between groups in the level at which the dilemma was encountered. This implies that the doctors of different age groups- 25-34 years (78.3%), 35-44 years (68.5%) and 45 years and above (82.4%) did encounter end of life dilemma at the same level; and likewise male (80.0%) and female (67.3%) doctors; doctors of different ranks- house officers (76.8%), medical officers (81.0%), registrars (67.5%), senior registrars (73.3%) and consultants (87.5%); and doctors who knew the supervising body of all medical ethical issues (75.6%) and those who did not know (73.7%). In knowledge source of the code of medical ethics however, the difference between those whose knowledge source was undergraduate medical school (33.3%) and those whose knowledge source was internet and medical journal (78.9%) was significant, $p = .002$. The dilemma was significantly more on doctors whose knowledge source was undergraduate medical school.

Table 10: Variations in Overall Ethical Dilemma Encountered by Doctors

		Ethical Dilemma		Total	χ^2	df	p
		Less	More				
Age	25-34 years	31(44.9)	38(55.1)	69(100.0)	7.452	2	.024
	35-44 years	26(48.1)	28(51.9)	54(100.0)			
	45+ years	2(11.8)	15(88.2)	17(100.0)			
	Total	59(42.1)	81(57.9)	140(100.0)			
Gender	Male	35(41.2)	50(58.8)	85(100.0)	.083	1	.773
	Female	24(43.6)	31(56.4)	55(100.0)			
	Total	59(42.1)	81(57.9)	140(100.0)			
Rank	House officer	25(44.6)	31(55.4)	56(100.0)	11.567	4	.021
	Medical officer	9(42.9)	12(57.1)	21(100.0)			
	Registrar	22(55.0)	18(45.0)	40(100.0)			
	Senior registrar	1(6.7)	14(93.3)	15(100.0)			
	Consultant	2(25.0)	6(75.0)	8(100.0)			
	Total	59(42.1)	81(57.9)	140(100.0)			
Area of specialty	Community health	14(43.8)	18(56.2)	32(100.0)	2.206	4	.698
	Surgery	9(39.1)	14(60.9)	23(100.0)			
	Internal medicine	15(48.4)	16(51.6)	31(100.0)			
	Paediatrics	13(46.4)	15(53.6)	28(100.0)			
	Obstetrics & Gynaecology	8(30.8)	18(69.2)	26(100.0)			
	Total	59(42.1)	81(57.9)	140(100.0)			
Knowledge source	Undergraduate medical school	52(40.6)	76(59.4)	128(100.0)	1.411	1	.235
	Internet and medical journals	7(58.3)	5(41.7)	12(100.0)			
	Total	59(42.1)	81(57.9)	140(100.0)			
Knowledge of supervising body	Correct	33(40.2)	49(59.8)	82(100.0)	.397	1	.529
	Incorrect	26(45.6)	31(54.4)	57(100.0)			
	Total	59(42.4)	80(57.6)	139(100.0)			

Table 10 displays the variations in overall ethical dilemma as encountered by the doctors. In gender ($p = .773$), area of specialty ($p = .698$), knowledge source of code of medical ethics ($p = .235$) and knowledge of supervising body of all medical ethics ($p = .529$), there was no significant difference between groups. This implies that in gender, between male (58.8%) and female (56.4%), there was the same level of ethical dilemma encountered, and likewise among the different specialties: community health doctors (56.2%), surgeons (60.9%), internal medicine doctors (51.6%),

paediatricians (53.6%) and obstetrician and gynaecologists (69.2%). Also, between doctors whose knowledge source of code of medical ethics was undergraduate medical school (59.4%) and those whose source was internet and journals (41.7%), both had the same level of ethical dilemma; and likewise, between doctors who knew the supervising body of all medical ethical issues (59.8%) and those who did not know (54.4%). In age ($p = .024$) and rank ($p = .021$), there was significant difference between groups. In age, ethical dilemma was more among older doctors- 45 years and above (88.2%) than the younger doctors- 25-34 years (55.1%) and 35-44 years (51.9%). In rank, ethical dilemma was associated more to higher ranking doctors- senior registrars (93.3%) and consultants (75.0%) than doctors of other ranks- house officers (55.4%), medical officers (57.1%) and registrars (45.0%)

Table 11a: Logistic Regression Classification Table, Model Summary and Omnibus Test of Model Coefficients of Doctors' Ethical Dilemma

Classification Table					Model Summary			Omnibus Test of Model Coefficients		
		Predicted ethical dilemma		% Correct	-2 Log likelihood	Cox & Snell R ²	Nagelkerke R ²	χ^2	df	p
		Less	Much							
Observed ethical dilemma	Less	18	41	30.5	172.333	.116	.156	17.177	12	.143
	Much	14	66	82.5						
Overall %				60.4						

The cut value is .500

Table 11b: Logistic Regression Model Coefficients of Doctors' Ethical Dilemma

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Age			.833	2	.659			
25-34 years	-1.667	1.837	.824	1	.364	.189	.005	6.914
35-44 years	-1.221	1.486	.675	1	.411	.295	.016	5.428
Gender	.126	.414	.092	1	.761	1.134	.504	2.551
Rank			1.754	3	.625			
House officers	-.804	1.565	.264	1	.607	.447	.021	9.606
Medical officers	-.932	1.412	.436	1	.509	.394	.025	6.265
Registrars	-1.432	1.186	1.456	1	.228	.239	.023	2.444
Area of specialty			.798	4	.939			
Community health	-.220	.623	.124	1	.724	.803	.237	2.724
Surgery	-.073	.700	.011	1	.917	.930	.236	3.667
Internal medicine	-.364	.615	.350	1	.554	.695	.208	2.320
Paediatrics	-.472	.629	.563	1	.453	.624	.182	2.141
Knowledge source	1.564	.894	3.064	1	.080	4.778	.829	27.530
Knowledge of supervising body	.013	.390	.001	1	.973	1.013	.472	2.175
Constant	1.278	1.003	1.625	1	.202	3.590		

Predictors: Age group; Gender; Rank; Area of specialty; Knowledge source of medical ethics; Knowledge of supervising body.

Reference category: Age (45+ years), Gender (Female), Rank (senior registrar/ consultant), Specialty (Obstetrician & Gynaecology), Knowledge source of medical ethics (internet and journals); Knowledge of supervising body of all medical ethical issues (Incorrect)

The logistic regression model (logit (Tables 11a and b) (having much ethical dilemma) = 1.278 – 1.667*(25-34 years) – 1.221*(35-44 years) + 0.126*gender – 0.804*house officer – 0.932*medical officer – 1.432*registrar – 0.220*community health – 0.073*surgery – 0.364*internal medicine – 0.472*paediatrics + 1.564*knowledge source + 0.013*knowledge of supervising body) explained 15.6% (Nagelkerke R²) of the variation in doctors' ethical dilemma (that is, whether less or much). It also correctly predicted the ethical dilemma status of 60.4% of the doctors. The omnibus test of model coefficients using the Chi-Square revealed that the model coefficients were not significant, $\chi^2(12) = 17.177$, $p = .143$. To this effect, the Wald statistic further indicated that the coefficients of age ($p = .659$), gender ($p = .761$), rank ($p = .625$), area of specialty ($p = .939$), knowledge source ($p = .080$) and knowledge of supervising body ($p = .973$) were not significant. This implies that holding other predictors constant, doctors by their different age groups had the same odds of having much ethical dilemmas; and likewise by their gender, rank, area of specialty, knowledge source of code of medical ethics and knowledge of the supervising body of all medical ethical issues.

Discussions

Most of the respondents were aged between 25-44 years (87.9%). In area of specialty, community health doctors (22.9%), internal medicine doctors (22.1%) and paediatricians (20.0%) were more. The prevalent dilemma encountered by the doctors was that of end of life (75.0%), resource allocation (61.4%), discharge against medical advice (61.4%) and religion and culture (60.7%), while that of informed consent (48.6%) was middling. The prevalence of conflicting interest (41.4%) and confidentiality (39.3%) was low. In general, greater parts of the doctors have encountered much ethical dilemmas (57.9%).

There were no significant variations in informed consent dilemma encountered by doctors in age, gender, rank and knowledge of supervising body and also between groups. This implies that the prevalence of the dilemma among doctors of the different age groups was the same. Likewise, the prevalence between male and female, among doctors of different ranks, between doctors with correct and incorrect knowledge of the supervising body of medical ethical issues were the same. However, there were significant differences between groups in areas of specialty ($p = .004$) and knowledge source of the code of medical ethics ($p = .003$), there was also significant difference between groups. In area of specialty, the dilemma was prevalent among community health doctors (71.0%) and paediatricians (64.3%) than other specialties--surgeons (39.1%), obstetricians and gynecologists' (38.5%) and internal medicine doctors (29.0%). In knowledge source of code of medical ethics, the dilemma was prevalent among doctors whose knowledge source was the undergraduate medical school (52.8%) than those whose knowledge source was internet and medical journals (8.3%).

There were no significant variations in confidentiality dilemma encountered by doctors in age, gender, area of specialty, knowledge source of the code of medical ethics and knowledge of the supervising body of all medical ethics and between groups. This implies the doctors did encounter confidentiality dilemma at the same level. However in rank, there was significant difference

between groups, $p = .002$. Consultants (75.0%), senior registrars (66.7%) and then medical officers (57.1%) did encounter the dilemma more than the registrars (30.0%) and the house officers (26.8%).

There were no significant variations in resource allocation dilemma encountered by doctors in age, gender, area of specialty, knowledge source of the code of medical ethics and knowledge of the supervising body of all medical ethical issues. Only marginal differences existed in the level at which resource allocation dilemma was encountered by the different groups. In rank however, the difference between groups--house officers (51.8%), medical officer (66.7%), registrars (80.0%), senior registrars (40.0%) and consultants (62.5%) in resource allocation dilemma encountered was significant, $p = .025$. The dilemma was most on the registrars and least on senior registrars.

There were no significant variations in conflict of interest dilemma encountered by doctors in gender and between the proportions of male doctors and female doctors. However, in age ($p < .001$), rank ($p < .001$), area of specialty ($p = .014$), knowledge source of the code of medical ethics ($p = .004$) and knowledge of the supervising body of all medical ethical issues ($p = .043$), significant difference existed between groups with regards to the proportion that have encountered the dilemma. In age, doctors aged 45 and above (100.0%) encountered it more than the other age groups--35-44 years (42.6%) and 25-34 years (26.1%). In rank, consultants (100.0%) and senior registrars (93.3%) encountered the dilemma more than other ranks- house officers (21.4%), medical officers (47.6%) and registrars (35.0%). In area of specialty, community health doctors (15.6%) encountered it least compared to other specialties- surgeons (56.5%), internal medicine doctors (41.9%), paediatricians (50.0%) and obstetricians and gynaecologists (50.0%). In knowledge source of the code of medical ethics, doctors whose knowledge source was internet and medical journals (83.3%) encountered the dilemma more than those whose knowledge source was the undergraduate medical school (37.5%). In knowledge of the supervising body of all medical ethical issues, those with correct knowledge (48.8%) encountered it more than those with incorrect knowledge (31.6%).

There were no significant variations in discharge against medical advice dilemma encountered by doctors in gender, knowledge source of the code of medical ethics and knowledge of the supervising body of all medical ethical issues and also between groups. This implies that the dilemma was encountered at the same level by both male (64.7%) and female (56.4%) doctors, by both doctors whose knowledge source of the code of medical ethics was undergraduate medical school and those whose knowledge source was the internet and medical journal and by both doctors who knew the supervising body of all medical ethical issues and those who did not know. However, in age ($p < .001$), there was significant difference between groups in the level at which the dilemma was encountered, and likewise in rank ($p < .001$) and area of specialty ($p = .009$). In age, discharge against medical advice was encountered more by younger doctors (78.3%) than others- 34-44 years (42.6%) and 45 years and above (52.9%). In rank, it was encountered more by medical officers (81.0%), house officers (76.8%) and consultants (75.0%) than the registrars (40.0%) and senior registrars (26.7%). In area of specialty, the dilemma was encountered the least by community health doctors (37.5%) and most by internal medicine doctors (77.4%) and paediatricians (75.0%). Surgeons (60.9%) and obstetricians and gynaecologists (57.7%) were middling.

There were no significant variations in religion and culture dilemma encountered by doctors in gender, area of specialty and knowledge source of the code of medical ethics and between groups. This implies the doctors of by their gender, by their area of specialty and by their knowledge source

of the code of medical ethics did encounter religion and culture dilemma at the same level. However in age ($p = .008$), rank ($p = .001$) and knowledge of supervising body of all medical ethical issues ($p = .030$), there were significant difference between groups. In age, younger doctors- 25-34 years (47.8%) encountered the dilemma least compared to other older doctors- 35-44 years (74.1%) and 45 years and above (70.6%). In rank, medical officers (38.1%) and house officers (48.2%) encountered it least compared to other ranks- registrars (82.5%), senior registrars (80.0%) and consultants (62.5%). In knowledge of supervising body of all medical ethical issues, doctors with correct knowledge (53.7%) encountered the dilemma least than those with incorrect knowledge (71.9%).

In the end of life dilemma, there were no significant variations among the doctors in age, gender, rank, area of specialty and knowledge of supervising body and between groups. This implies that the doctors of different age groups did encounter end of life dilemma at the same level and likewise male and female doctors; doctors of different ranks and doctors who knew the supervising body of all medical ethical issues and those who did not know. In knowledge source of the code of medical ethics however, the difference between those whose knowledge source was undergraduate medical school (33.3%) and those whose knowledge source was internet and medical journal (78.9%) was significant, $p = .002$. The dilemma was significantly more on doctors whose knowledge source was undergraduate medical school.

Overall, there were no variations in ethical dilemma encountered by the doctors in gender, area of specialty, knowledge source of code of medical ethics and knowledge of supervising body of all medical ethics including between groups. This implies that in gender and among the different specialties and those whose knowledge source was internet and journals had the same level of ethical dilemma; and likewise, between doctors who knew the supervising body of all medical ethical issues and those who did not know. In age ($p = .024$) and rank ($p = .021$) however, there was significant differences between groups. In age, ethical dilemma was more among older doctors--45 years and above (88.2%) than the younger doctors--25-34 years (55.1%) and 35-44 years (51.9%). In rank, ethical dilemma was associated more to higher ranking doctors- senior registrars (93.3%) and consultants (75.0%) than doctors of other ranks--house officers (55.4%), medical officers (57.1%) and registrars (45.0%).

The logistic regression model of the variation in doctors' ethical dilemma (that is, whether less or much) correctly predicted the ethical dilemma status of 60.4% of the doctors. The omnibus test of model coefficients using the Chi-Square revealed that the model coefficients were not significant, $\chi^2(12) = 17.177$, $p = .143$. To this effect, the Wald statistic further indicated that the coefficients of age ($p = .659$), gender ($p = .761$), rank ($p = .625$), area of specialty ($p = .939$), knowledge source ($p = .080$) and knowledge of supervising body ($p = .973$) were not significant as well. This implies that holding other predictors constant, doctors by their different age groups had the same odds of having much ethical dilemmas; and likewise by their gender, rank, area of specialty, knowledge source of code of medical ethics and knowledge of the supervising body of all medical ethical issues.

In our study, the prevalent dilemmas encountered by the doctors were that of end of life (75.0%), resource allocation (61.4%), discharge against medical advice (61.4%) and religion and culture (60.7%), while that of informed consent (48.6%) was middling. In general, greater parts of the doctors have encountered much ethical dilemmas (57.9%). It was not surprising that the top most dilemma encountered by the doctors was end of life dilemma. Given the availability of life

sustaining machines, it becomes a struggling decision to end life in the face of how far medical technology could go to preserve it. Moreover, doctors are trained to preserve life not to take it. Failure to preserve life goes against the principles of beneficence (always seek the patient's best interest) and nonmaleficence (first of all, do no harm). It was also not surprising that resource allocation occupied a high place among the dilemmas experienced by the doctors. Given a resource constrained environment in Nigerian hospitals, it becomes very difficult to allocated resources among competing yet worthwhile demands. Should we continue to sustain patients in vegetative state given an un-encouraging prognosis becomes a medical dilemma to the doctor for instance? Discharge against medical advice is a regular dilemma encountered by doctors in Nigerian hospitals given our resource constrained environment. Many a time doctors are encouraged to discharge a patient due to non availability of funds to continue treatment in the face of obvious needed medical attention which poses a dilemma to the doctor who has sworn to preserve life. This finding is supported by [5] where the breakdown of the identified medical ethical dilemmas show that discharge against medical advice was the most identified by the respondents followed by religious/cultural issues, and then confidentiality. Others were informed consent issues, truth telling, conflict of interest, end of life issues, and allocation of resources.

Our study also found that there were significant differences in informed consent between groups in areas of specialty ($p = .004$) and knowledge source of the code of medical ethics ($p = .003$). In area of specialty, the dilemma was prevalent among community health doctors (71.0%) and paediatricians (64.3%) than other specialties--surgeons (39.1%), obstetricians and gynaecologists (38.5%) and internal medicine doctors (29.0%). The dilemma on informed consent was also more prevalent among doctors whose knowledge source of medical ethics was the undergraduate medical school (52.8%) than those whose knowledge source was internet and medical journals (8.3%). Not surprising, informed consent dilemma was noticed the most among doctors who had the least need to observe it. Community health doctors are involved the most in disease prevention and health promotion while paediatricians are involved mostly with minors whose guardians and parents consent on their behalf. This finding is also supported by [5] where informed consent was the most recognized by the respondents as a medical ethical dilemma. Informed consent remains a remote dilemma especially among Nigerian doctors who hardly demand for it during patient encounter due to the fact that most patients have not exploited it to their advantage in the past against physicians in cases involving medical negligence. Non consenting patients during medical treatment hardly take advantage of it in cases of physicians' medical malpractice. Because of this most physicians do assume that patients have consented for treatment when they do present for medical treatment.

Our study equally observed that there were significant differences in confidentiality dilemma between groups, $p = .002$. Consultants (75.0%), senior registrars (66.7%) and medical officers (57.1%) did encounter the dilemma more than the registrars (30.0%) and the house officers (26.8%). Expectedly enough, consultants being the most senior of the physicians encountered this dilemma more frequently due to their protracted experience in medicine and their qualifications. Genuine medical cases that may not pose as a breach of confidentiality to junior doctors due to their inexperience are easily discovered by the more experienced senior ones. This finding is supported by [5] which documents that Issues dealing with confidentiality, discharge against medical advice (DAMA), religion and culture, and informed consent were the most recognized by the respondent physicians.

There was no significant variation in resource allocation dilemma encountered by the doctors in age, gender, area of specialty, knowledge source of the code of medical ethics and knowledge of the supervising body of all medical ethical issues, however there remained significant resource allocation dilemma when the respondents were compared according to their ranks. In rank, the difference between groups--house officers (51.8%), medical officer (66.7%), registrars (80.0%), senior registrars (40.0%) and consultants (62.5%) in resource allocation dilemma encountered was significant, $p = .025$. The dilemma was most on the registrars and least on senior registrars. This finding was not surprising especially the registrars being highly ranked next to consultants were able to note the most how limited medical resources should be divided among competing medical treatment demands. Questions of outcome maximization and prioritization would be weighed against the limited resources which in the end constitutes a dilemma especially when desired patients' medical treatments are refused. This finding compares to [6, 10, 11] where It was argued that surgeons have been put under heavy political and administrative pressure to reduce costs to a greater extent than other medical specialists, and they may experience dilemmas between promoting the patients' health interests and the economic interest of the hospital and of society. Though there were no significant variations in conflict of interest dilemma encountered by doctors in gender and between the proportions of male doctors and female doctors. However, in age ($p < .001$), rank ($p < .001$), area of specialty ($p = .014$), knowledge source of the code of medical ethics ($p = .004$) and knowledge of the supervising body of all medical ethical issues ($p = .043$), significant difference existed between groups with regards to the proportion that have encountered the dilemma. In age, doctors aged 45 and above (100.0%) encountered it more than the other age groups. In rank, consultants (100.0%) and senior registrars (93.3%) encountered the dilemma more than others. In area of specialty, community health doctors (15.6%) encountered it least compared to other specialties- surgeons (56.5%), internal medicine doctors (41.9%), paediatricians (50.0%) and obstetricians and gynaecologists (50.0%). In knowledge source of the code of medical ethics, doctors whose knowledge source was internet and medical journals (83.3%) encountered the dilemma more than those whose knowledge source was the undergraduate medical school (37.5%). Conflict of interest results when sometimes doctors find it difficult to take a decision due personal disagreement between a recommended professional action and personal belief. Personal ethics and professional ethics sometimes conflict, a typical example being doctors' orientation to save life and a belief against blood transfusion. Age, rank and medical specialty could reinforce this dilemma due to heightened experience in life and qualification. And that could explain why the older, higher ranked and doctors that have to make decisions that bordered on personal belief and professional ethics encountered this dilemma the most. Obstetricians and gynaecologists are most often faced with the issue of fetus or new born survival for example in the face of obvious deformity which really constitutes a conflict of interest dilemma. This finding compares most favourable with [5] where it was stated that the medical ethical dilemmas encountered in daily medical practice by doctors were identified the most by medical officers, senior registrars and consultants followed by registrars and then house officers showing that higher ranked doctors experienced dilemma the most compared to junior officers including conflict of interest. Though there were no significant variations in discharge against medical advice dilemma encountered by doctors in gender, knowledge source of the code of medical ethics and knowledge of the supervising body of all medical ethical issues and also between groups, however, in age ($p < .001$), there was significant difference between groups in the level at which the dilemma was

encountered, and likewise in rank ($p < .001$) and area of specialty ($p = .009$). In age, discharge against medical advice was encountered more by younger doctors (78.3%) than others. In rank, it was encountered more by medical officers (81.0%), house officers (76.8%) and consultants (75.0%) than others. In area of specialty, the dilemma was encountered the least by community health doctors (37.5%) and most by internal medicine doctors (77.4%) and paediatricians (75.0%). Surgeons (60.9%) and obstetricians and gynaecologists (57.7%) were middling. It was not really surprising that younger doctors encountered dilemma on discharge against medical advice the most since they are young and most likely inexperienced compared to the senior groups. Higher ranked doctors experienced this dilemma the most because they were able understand the consequences that follow patients being discharged against medical advice unlike lower ranked doctors. This finding is supported by [12] where it was stated that senior surgeons encountered dilemma when deciding about discharging a patient from the ICU. At the heart of this moral distress is the desire to provide the best care possible, but being unable to do so, often for reasons beyond the caregiver's control.

Even though there were no significant variations in religion and culture dilemma encountered by doctors in gender, area of specialty and knowledge source of the code of medical ethics and between groups. However in age ($p = .008$), rank ($p = .001$) and knowledge of supervising body of all medical ethical issues ($p = .030$), there was a significant difference between groups. In age, younger doctors- 25-34 years (47.8%) encountered the dilemma least compared to other older doctors- 35-44 years (74.1%) and 45 years and above (70.6%). In rank, medical officers (38.1%) and house officers (48.2%) encountered it least compared to other ranks- registrars (82.5%), senior registrars (80.0%) and consultants (62.5%). In knowledge of supervising body of all medical ethical issues, doctors with correct knowledge (53.7%) encountered the dilemma least than those with incorrect knowledge (71.9%). The younger doctors most probably least considered patients' religious and cultural backgrounds in offering treatment so they encountered this dilemma the least so were lower ranked medical officers as well. This finding is supported by [5] that reported that the medical ethical dilemmas encountered in daily medical practice by doctors were identified the most by medical officers, senior registrars and consultants followed by registrars and then house officers. The breakdown of the identified medical ethical dilemmas which were foremost by junior medical officers show that discharge against medical advice was the most identified by the respondents followed by religious/cultural issues.

Though, in the end of life dilemma, there were no significant variations among the doctors in age, gender, rank, area of specialty and knowledge of supervising body and between groups. However, in knowledge source of the code of medical ethics however, the difference between those whose knowledge source was undergraduate medical school (33.3%) and those whose knowledge source was internet and medical journal (78.9%) was significant, $p = .002$. The dilemma was significantly more on doctors whose knowledge source was undergraduate medical school. Knowledge from undergraduate medical school proved to be more worthy and reliable compared to knowledge from the internet concerning end of life dilemma. This finding supports more class room knowledge which we do advocate for should be extended to the post graduate medical studies.

Overall, there were no variations in ethical dilemma encountered by doctors in gender, area of specialty, knowledge source of code of medical ethics and knowledge of supervising body of all medical ethics including between groups. However, there were significant differences between groups. In age, ethical dilemma was more among older doctors--45 years and above (88.2%) than

the younger doctors--25-34 years (55.1%) and 35-44 years (51.9%). In rank, ethical dilemma was associated more to higher ranking doctors--senior registrars (93.3%) and consultants (75.0%) than doctors of other ranks--house officers (55.4%), medical officers (57.1%) and registrars (45.0%). On the way forward, the experiences of the older doctors should be brought to bear on the younger ones to close the gap in dilemma deficiencies suffered by them. More so, post graduate medical schools should imbibe the culture of teaching bioethics to extend on the knowledge gained at the undergraduate medical school level especially on the most identified dilemmas experienced by the doctors--end of life, resource allocation, discharge against medical advice and religion and culture.

Conclusion

The knowledge of medical ethics of the surveyed doctors is grossly inadequate especially for the younger doctors. Given changing medical technologies that sustain and prolong life, more medical ethical dilemmas should be expected and doctors should be made ready to grasp with this concept. A review of the undergraduate curriculum would be a desired direction and more so, bioethics should form part of the curriculum in post graduate medical schools. Attendance of seminars and workshops on bioethics should be made part of license renewal for practicing physicians in the future to boost their knowledge of medical ethics.

Strength and weakness of the study

This study gathers its strength from the fact that many medical specialties were involved in the study and this enabled the gathering of significant information on group knowledge and comparisons based on medical ethics. The interviewed doctors graduated from different medical schools and that strengthened the scope of our study as well.

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