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**SCHOOL OF PUBLIC HEALTH  
COLLEGE OF HEALTH SCIENCES  
UNIVERSITY OF GHANA**



**FACTORS INFLUENCING THE INTEREST OF HOUSE OFFICERS AND  
MEDICAL**

**OFFICERS IN ANAESTHESIOLOGY SPECIALTY AT THE KORLE-BU  
TEACHING HOSPITAL**

**BY**

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**DECLARATION**

I hereby declare that excluding precise references which have been duly acknowledged, this submission is my own work towards my MPH dissertation and that, to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University or elsewhere.

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(ACADEMIC SUPERVISOR)

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.....4<sup>th</sup> March, 2022.....DATE



**DEDICATION**

I dedicate this thesis to my entire family and close friends for their support, both emotionally

and financially, to help see my studies through to the end.



### **ACKNOWLEDGEMENT**

My gratitude goes to the Almighty God who has been my source of strength throughout my education. Special appreciation also goes to my supervisor, Prof. Mawuli Dzodzomenyo for his guidance and dedication to make this project a success. Lastly, I give thanks to the staff of Korle-bu teaching hospital who participated in the study, and those who in one way or another contributed to the success of this research.



## ABSTRACT

**Introduction:** Anaesthesiology is the medical specialty which deals with the pharmacological, physiological, and clinical aspects of anaesthesia, a state of temporary loss of wakefulness or sensation, which is induced for medical purposes. Over the years, the field has failed to attract an adequate number of doctors into its practice though an integral part of the practice of medicine.

**Aim of The Study:** The study assessed the factors affecting the interest of house officers and medical officers in anaesthesiology as a prospective field of specialisation.

**Methods:** The study employed a quantitative research design, in which questionnaires were administered to 192 House officers and medical officers from 5 Departments (Surgery, Medicine, Paediatrics, Obstetrics & Gynaecology and Anaesthesia). The doctors were selected using the stratified random sampling technique. STATA 16 was used to process and analyze the data gathered from the respondents. Descriptive statistics (percentages, means and frequencies) and inferential statistics (chi square and logistic regression) were used for data analysis.

**Results:** Doctors generally had a good perception about anaesthesiology. Also, duration of a specialty, rotation during clinical clerkship and ability to have a controlled lifestyle were some of the factors that influence the interest of doctors in anaesthesiology as a prospective field of specialization. In line with this, respondents between the ages of 25 to 29 years were more likely as compared to those who were less than 25 years to be interested in anaesthesiology specialisation [(cOR =4.364; 95% CI =1.202-15.838), (aOR =3.241, 95% CI =1.103-14.72)]. Again, respondents who had practiced medicine for 2 to 4 years were more likely as compared to those who had practiced medicine for less than 2 years to be interested in anaesthesiology specialisation [(cOR =2.143; 95% CI =1.072-4.286), (aOR =1.567, 95% CI =1.013-3.245)].

**Conclusion:** There is a good perception of medical officers and house officers about anaesthesiology. Likewise, factors such as the duration and level of exposure to the specialty during clinical clerkship and the ability to have a controlled lifestyle and future job prospects are significant in influencing the interest in anaesthesiology specialisation.

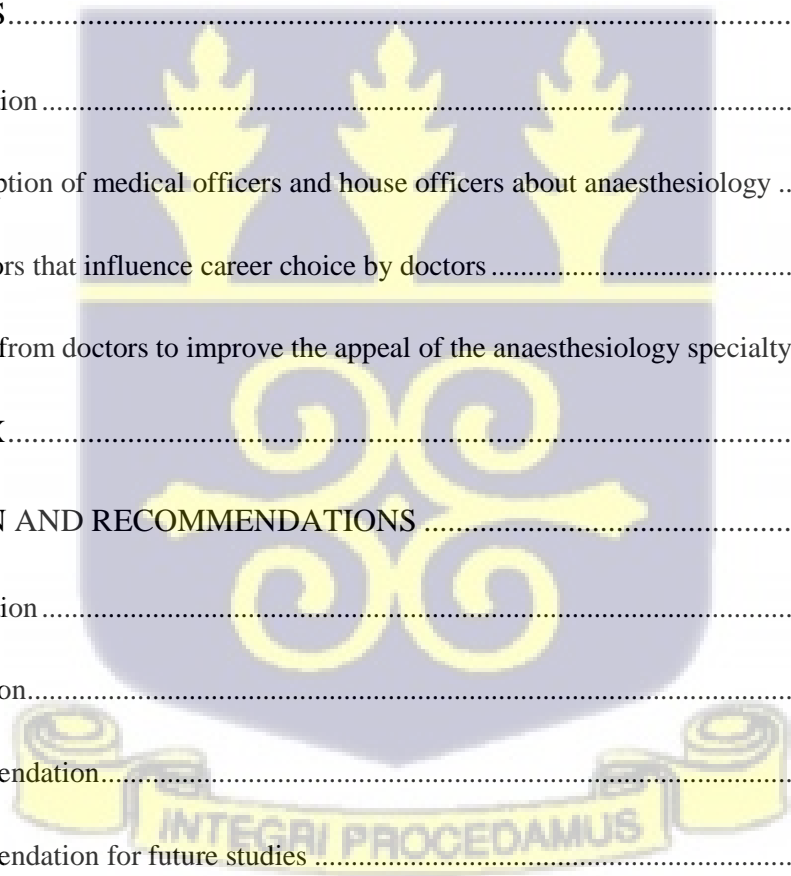
**Recommendations:** Senior anaesthesiologists and medical schools need to improve the profile of the discipline, by changing the misconceptions attached to it and enhance its appeal to doctors. This can be done by dispelling the notion that anaesthesiology is a risky and dangerous profession during lectures in the medical schools

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**LIST OF ABBREVIATIONS**

CPD	Continuous Professional Development
DA	Diploma in Anaesthesia
CRA	Certified Registered Anesthetist
GCPS	Ghana College of Physicians and Surgeons
HDI	Human Development Index
IRB	Institutional Review Board
KATH	Komfo-Anokye Teaching Hospital
KBTH	Korle-Bu Teaching Hospital
LMICs	low- and middle-income countries

MMR	Measles-Mumps-Rubella
NA	Nurse Anaesthetist
SPSS	Statistical Package for Social Sciences
UDS	University of developmental studies
UGMS	University of Ghana Medial School
WACS	West Africa College of Surgeons



## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background

Specialisation is necessary for the success of any health system, and it has an impact on the availability and distribution of medical staff, as well as the level of service that the health system can provide. Some medical specialties in Ghana have a very large number of practitioners, and these disciplines are continually recruiting new doctors. Anaesthesiology specialisation unfortunately has not seen the same trend over the years (Abdul-Rahman et al., 2015).

Anaesthesiology is the medical specialty that deals with the pharmacological, physiological, and clinical aspects of anaesthesia, a state of temporary loss of wakefulness or sensation, which is induced for medical purposes. Anaesthesiologists typically function as perioperative doctors, responsible for the patient's comfort and safety during the preoperative, intraoperative, and postoperative phases. They also help patients safely manage pain from an injury, surgery, labour or chronic pain such as migraines and back pain using both opioid and non-opioid treatment (*Role of a Physician Anesthesiologist - Made for This Moment*, n.d.). They also have expertise in cardiopulmonary resuscitation and advanced cardiac life support, as well as the treatment of critically ill patients in intensive care units. Anaesthesiologists also provide training for non-physician providers such as Certified Registered Anaesthetists (CRAs) who participate in the delivery of anaesthesia care to the patient in today's medical environment. The scope of anaesthesiology practice also includes running preoperative evaluation clinics and pre-operative assessments for patients admitted for various surgical procedures (*Scope of the Practice of Anesthesiology*, 2021). It goes without saying therefore that the services of anaesthesiologists in health care is highly indispensable.

Anaesthesia is a necessary and fundamental element of surgery. The picture painted by studies on anaesthetic capability in low- and middle-income countries (LMICs) is alarming. United Kingdom (UK) is about to face an anaesthesiologists workforce time bomb with their current severe personnel shortage, which is preventing a large number of surgeries from taking place (The Royal College of Anaesthetists, 2022). There are six million patients on the UK National Health Service waiting list, with a shortfall of about 1,400 anaesthesiologists, and it is projected that if more doctors are not enrolled into the field, by 2040, about 8 million surgeries will be cancelled or delayed per year due to insufficient anaesthetists. With physician-to-population densities spanning between 0 to 4.9 per 100,000, the anaesthesiology workforce is in crisis. The provider-to-population ratio was found by Brouillette et al., 2017, to be 0.26 per 100,000 for Ghana. In 2016, there were 70 anaesthesiology physicians and 22 anaesthesiology residents practising in Ghana's ten regions at the time, all of whom worked in urban areas. There were 565 certified registered anaesthetists (CRAs), previously called nurse anaesthetists, most of whom were located in big cities. At the Korle-Bu Teaching Hospital, there were over 150 consultant/specialist surgeons compared to just over 30 consultant/specialist anaesthesiologists as of the end of December 2014. As a result, the ratio of the surgeon to anaesthesiologist was 5:1. This ratio, however, is less than the globally recommended minimum of 4:1 (Abdul-Rahman et al., 2015). This situation puts a great deal of pressure on the few practising anaesthesiologists in the country and will only get worse if strategies are not put in place to make the specialty more appealing for doctors.

To help with the critical shortage of trained anaesthesiologists, CRA training institutions were set up in three hospitals: Greater Accra Regional Hospital, KATH, and Tamale Teaching Hospital to offer a two-year Bachelor of Science degree, taught by physician anaesthetists, after which they were recognized to practice independently, though some degree of physician supervision was present in the teaching hospitals (Brouillette et al., 2017). However, this

longstanding problem of self-autonomy of Certified Registered Anaesthetists (CRA) due to the lack of an adequate number of physicians for supervision has led to a never-ending stand-off between these groups over practising rights (*The World News*, 2019).

A recent study by Abdul-Rahman et al. in 2015, showed that the majority of the University of Ghana Medical School undergraduate medical students in their final year did not want to pursue a career in anesthesiology. General surgery was the most popular specialty choice with 17.8% of the students having an interest in it, whereas anaesthesiology was one of the least popular options with 1.4% student interest, placing 7<sup>th</sup> out of 8 ranks. This statistic is comparable to that of Dambisya et al. in 2003, a study in South Africa, who found that just 1.2% of medical students chose anaesthesiology as a specialty, compared to surgery (27.6%), internal medicine (25.8%), obstetrics and gynaecology (19.6%), and paediatrics (14.1%). Similarly, Nigerian undergraduate medical students have been found to have a poor interest in anaesthesiology, citing considerations like the opportunity to pursue other interests, job availability, and academic and research possibilities as the most important in deciding on a future specialisation (Onyeka & NP, 2010).

It is therefore a matter of urgency to put structures in place to make anaesthesiology more attractive to young medical undergraduates, especially in LMICs.

## **1.2 Problem statement**

Within health care, the incidence of burnout has been reported across a wide range of specialties and health care organizations (Wong & Olusanya, 2017). Significant physical and emotional demands, as well as high levels of stress, characterize anaesthesia and critical care medicine. Both specialties deal with long shifts involving intermittent emergency cases, as a result, it's no surprise that exhaustion and self-harm/suicide are common (Wong & Olusanya, 2017). According to studies, burnout prevalence rates among European anaesthetists range from 6% to 18%. Also, according to a recent poll from the United States, critical care physicians had a

prevalence of burnout of 55%, the greatest of all of the medical specialties studied (Wong & Olusanya, 2017).

Ghana has a significant shortage of physician anaesthetists who double as intensivists to staff ICUs which is the case in health care globally (*Critical Care as a Career for Anaesthesiologists* - PMC, n.d.). Non-intensivist providers, such as medical officers who work without standard supervision protocols, staff more than half of the ICUs (56%) in Ghana. While there is adequate nursing support, the same cannot be said for physician staff (Siaw-Frimpong et al., 2021).

Career choice trends differ from country to country and even over time within the same country. Anaesthesia, albeit a fundamental element of the healthcare system, does not have enough specialists and has been attracting few numbers of doctors over the years due to lack of interest as seen in a 2015 study by Abdul-Rahman et al among clinical medical students at the University of Ghana Medical School.

At the Korle-Bu Teaching Hospital, due to the limited number of physician anaesthetists, only a small number of patients who require anaesthesia may be seen at any given time (AbdulRahman et al., 2015). Aside from limiting the number of surgical operations that can be performed, this also leads to long waiting times at the pre-anaesthesia clinic and results in case cancellations or postponements, all of which contribute to the ever-increasing number of patients on surgical waiting lists. The burden overwhelms the few physician anaesthetists available which can be a deterrent for doctors to venture into the specialty. This also has a negative impact on surgical training when cases are cancelled due to the anaesthesiologists work overload (Abdul-Rahman et al., 2015).

To mitigate this shortage, CRAs have been trained to offer anaesthetic care, majority of whom do so without supervision from physicians and has led to a sense of self-autonomy by these CRAs which continues to be a problem in the healthcare of Ghanaians due to industrial strikes organized by these nurses to fight for their practising rights.

Also, the training programme for the specialty is available in only two teaching hospitals in the country which are Korle-bu and Komfo-Anokye compared to other training programmes which are available in the various teaching hospitals. This is due to the fewer number of physician anaesthetists qualified for post-graduate training in the other training facilities, who are a necessity to get accreditation for training doctors in any field. This could be a limitation for doctors who may have an interest in the field due to institutional preferences for specialty training.

The West African College of Surgeons (WACS) launched three diploma training programs in 1990, including Anaesthesia Certificate (DA), under the leadership of the now-defunct West African Postgraduate Medical College. These were designed to teach post-Bachelor of Medicine/Bachelor of Surgery medics cognitive skills over a 12-to-18-month period, allowing them to handle minor cases in rural facilities.

The diplomas were accepted by the WACS as sub-fellowship diplomas and by national medical councils as supplementary degrees with financial benefits. This certificate also affords holders who decide to specialise in anesthesiology to complete their membership programme in 2 years instead of the 3-year requirement by GCPS (Bode et al., 2013).

It is against this backdrop that this research seeks to examine the factors influencing the interest of "pre-residency doctors" at the Korle-Bu Teaching Hospital to take up anaesthesiology as a future career.

### **1.3 Justification of the study**

The number of surgical procedures being performed is rising as a result of advancements in surgical methods and anaesthetic techniques. As the country's life expectancy rises, the number of surgical operations required by the population will rise as well for the mere reason that aging comes with the need to fix a malfunctioning system such as broken fragile bones

(AbdulRahman et al., 2015). As a result, there will be a greater need for surgeons and anaesthetists. Whereas the number of people applying for surgical residency has increased over time, the same cannot be said for anaesthesiology.

The advent of the COVID 19 pandemic has also highlighted the preparedness of the country to handle future pandemics as far as specialist health care is concerned. The need to train more anaesthetists/intensivists to treat the critically ill is dire now more than ever. The roles of anaesthetists have been highly indispensable in the fight against the novel virus. As the need for more ICUs has become apparent in these times, so should the need to train more skilled anaesthetists/intensivists to man these centres. The results of the study will serve as an awareness tool for the medical school, teaching hospitals, Ghana College of Physicians and Surgeons (GCPS), West Africa College of Surgeons (WACS) and other stakeholders who have little knowledge about what influences the interest of doctors in a specialty. The outcome of the study will be a source of reference for other studies.

#### **1.4 Conceptual Framework**

The diagram below describes the association between the main variables of the study, that is, the relationship between factors that influence career choice and interest in anaesthesiology.

The factors were grouped into demography, work-related, personal and institutional factors.

Demographic factors such as sex may influence work-related factors such as hours spent at work, such that a female doctor may prefer a specialty with fewer working hours in order to have ample time at home to raise her children. Similarly, a doctor stationed in a particular department may choose to pursue a career in that department because of the depth of knowledge imparted by faculty compared to another department which may have less hands-on teaching sessions with faculty. In addition, institutional factors like clerkship duration can determine the influence that consultants may have on doctors doing internship. The longer the duration and contact with senior doctors in the field, the more likely to be influenced by mentors to walk in

their steps. Again, the stronger the relationship or interaction between faculty and intern doctors, the more enlightenment they will gain about the job availabilities in the field as well as the job satisfaction, which will inform their choice when picking their future careers.

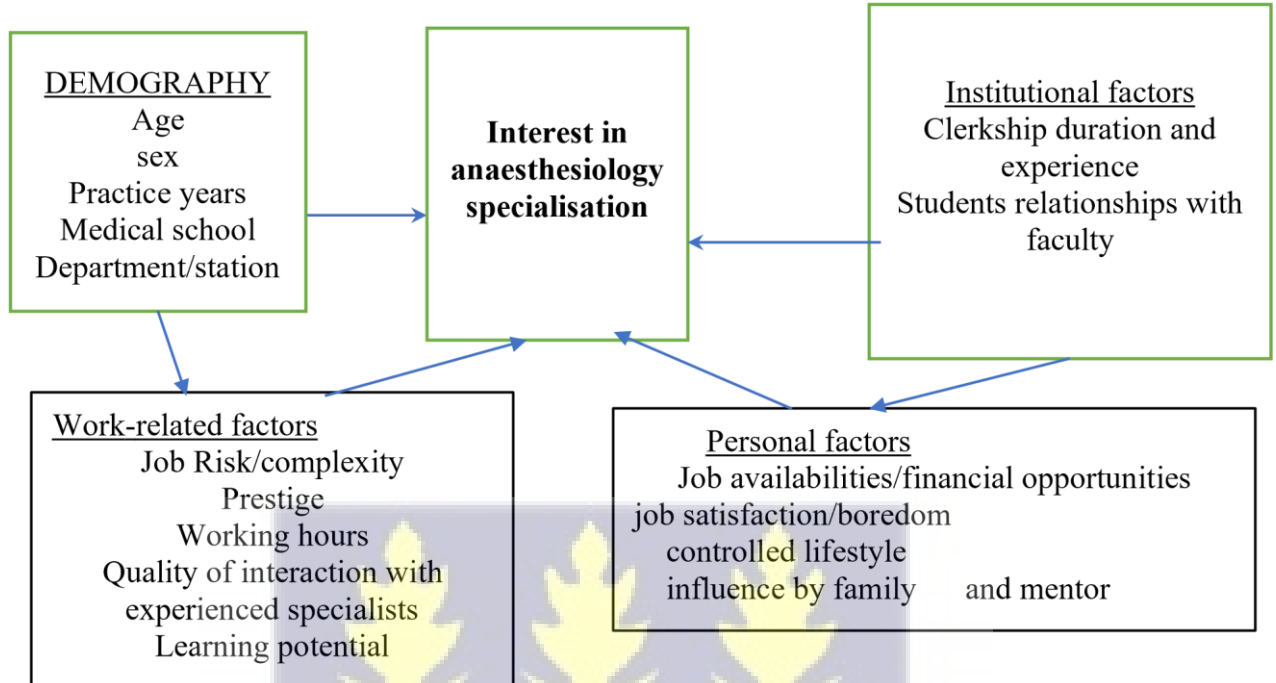


Figure 2.1: Conceptual framework of the relationship between factors that influence career choice and interest in anaesthesiology.

## 1.5 Research Questions

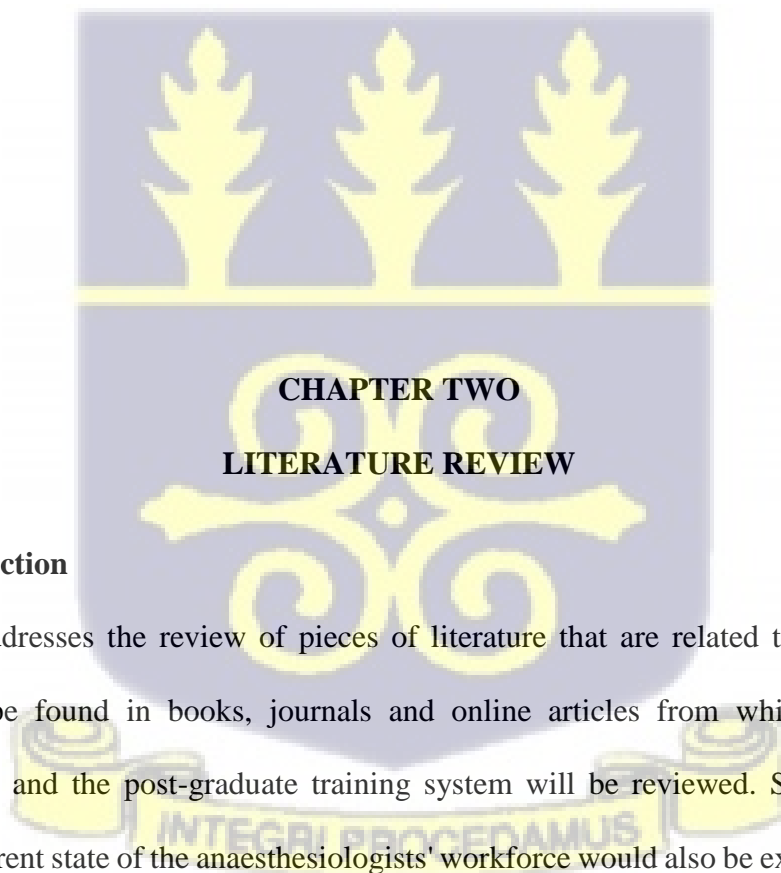
- i. What are the perceptions of medical graduates about anaesthesiology?
- ii. What are the factors that influence anaesthesiology career choice by doctors?
- iii. What are the proposals from doctors to improve the appeal of anaesthesiology specialty?

## 1.6 General Objective

The main aim of the study is to assess the factors affecting the interest of medical officers and house officers in anaesthesiology as a prospective field of specialisation.

### **1.7 Specific objectives**

- i. To determine the perception of medical officers and house officers about anaesthesiology.
- ii. To identify the factors that influence anaesthesiology career choice by doctors.
- iii. To explore proposals from doctors to improve the appeal of anaesthesiology specialty.



### **2.0 Introduction**

This chapter addresses the review of pieces of literature that are related to the study. The literature can be found in books, journals and online articles from which the scope of anaesthesiology and the post-graduate training system will be reviewed. Subsequently, the effect of the current state of the anaesthesiologists' workforce would also be expanded. Finally, the chapter would end with reviewing factors that influence the choice of specialisation in general among medical graduates, those which influence the decision to pursue anaesthesiology and strategies put in place to improve its appeal to doctors.

## 2.1 Anaesthesiology and Training Programmes in Ghana

Anaesthesiology is the medical specialty that deals with the pharmacological, physiological, and clinical aspects of anaesthesia, a state of temporary loss of wakefulness or sensation which is induced for medical purposes. Anaesthesiologists typically function as perioperative doctors, responsible for the patient's comfort and safety during the preoperative, intraoperative, and postoperative phases. The treatment of patients with acute and chronic pain is a vital duty of anaesthesiologists (*Ghana College of Physicians and Surgeons, 2021*). They also have expertise in cardiopulmonary resuscitation and advanced cardiac life support, as well as the treatment of critically ill patients in intensive care units. Anaesthesiologists also provide training for nonphysician providers such as Certified Registered Anaesthetists (CRAs) who participate in the delivery of anaesthesia care to the patient in today's medical environment.

The scope of anaesthesiology practice also includes running pre-operative evaluation clinics and pre-operative assessments for patients admitted for various surgical procedures (*Scope of the Practice of Anaesthesiology, 2021*)

The accreditation authorities for postgraduate anaesthesiology training are Ghana College of Physicians and Surgeons; GCPS (a national institution founded in 2003) and WACS (a West African association founded in 1975). They recommend that the local faculty teaches standardized courses based on the British system at Komfo-Anokye Teaching Hospital (KATH) in Kumasi and Korle-Bu Teaching Hospital (KBTH) in Accra. WACS mandated a three-month rural rotation, which KATH did not follow (Brouillette et al., 2017). Both schools provide a three-year membership programme for general training that leads to the title of "specialist," as well as a two-year advanced or subspecialty fellowship program that leads to the title of "consultant" which is optional. Residents have to take standardized exams to graduate from both institutions, and they have to pay examination charges (Brouillette et al., 2017). The Ministry of Health pays residents' wages for those on sponsorship, which would

usually be earned after working as a medical officer for at least 1 year in a government institution; while GCPS tuition was usually covered by the hospital, (WACS tuition was free). Currently, both tuition systems come at no cost. Applicants may apply to one of both institutions, and any programme's completion is adequate for practising in Ghana. Some students chose GCPS since the testing expenses were less expensive and also upon graduating, "members" with GCPS were upgraded onto specialist pay grade which was not the case for WACS certificate holders (Brouillette et al., 2017). There is also a diploma anaesthesia certificate programme run in KATH and KBTH for medical officers and residents, who are eligible to sit for the exam after only a year-long internship programme with the department. This offers diploma holders the opportunity to practice internationally such as in the United Kingdom as it is an internationally recognized exam.

To help with the critical shortage of trained anaesthesiologists, nurse anaesthetist (NA) training institutions were set up in three hospitals: Greater Accra Regional Hospital, KATH, and Tamale Teaching Hospital to offer a two-year Bachelor of Science degrees, taught by physician anaesthetists, after which they were recognized to practice independently, though some degree of physician supervision was usually present in the teaching hospitals (Brouillette et al., 2017).

In the United Kingdom it is reported that government funding is being advocated to provide at least, an additional hundred training slots for anaesthesiology to address the severe staff shortage and protect the mental health of the physician anaesthetists (The Royal College of Anaesthetists, 2022).

## **2.2 The perception of medical officers and house officers about anaesthesiology.**

In a cross-sectional study conducted by Abdul-Rahman et al. (2015) on the perception of medical officers and house officers about anaesthesiology as a future career, a total of 183 undergraduate final-year students of the University of Ghana Medical School were selected

using the convenience sampling method during a class tutorial before their exams. Findings from the study revealed that medical students have a negative perception of anaesthesiology as a future career. The study revealed that most of the students described anaesthesiology as "boring and uninteresting," "complicated and difficult to comprehend," "sensitive and dangerous," and "demanding." Therefore, it was inferred from the study that the interest in anaesthesiology amongst soon-to-be doctors is poor.

In a similar study, Gqiba et al. (2017) studied 112 final year medical students at the University of KwaZulu-Natal in South Africa using a questionnaire-based cross-sectional study. This study demonstrated that the undergraduate rotation in anaesthesia which was just 9 days, had the biggest impact on how they perceived the specialty. The students also mentioned that anaesthesiology was dull, demanding, terrifying and that it was seen as a behind-the-scenes profession, an assistant, rather than hands-on and in-charge. Medical students in Ghana and Nigeria shared these thoughts according to this study.

Manjoraan et al. (2021) conducted a study on the career choice of anaesthetists in a department of anaesthesiology at a tertiary institution in South Africa. Using a descriptive study design, questionnaires were used to gather data from 130 respondents. Data analysis was performed using descriptive and inferential statistics. The findings revealed that there is insufficient exposure of undergraduates to the specialty leading to the loss of interest in anaesthesiology specialisation.

Law et al. (2021) also assessed the perception of doctors about anaesthesiology as a future career in Uganda. The study used a discrete choice experiment approach, in which 47 anaesthesiologists were selected using the convenience sampling method. A questionnaire was used to gather data from the anaesthesiologists and analyzed using descriptive statistics. The study's findings revealed that medical officers had a negative perception of anaesthesia as a future career since the job took many working hours, but attracted small incomes.

Again, Nwasor (2010) examined the perception of medical students about the choice of anaesthesiology as a specialty in Nigeria. The study used a cross-sectional research approach, in which a total of one hundred (100) students were selected using a simple random sampling technique. Data were collected using a questionnaire and analyzed using descriptive and inferential statistics. The study results revealed that medical officers and doctors had a poor perception of anaesthesiology as a future career. This was because the officers perceived that anaesthesiologists work behind the scenes, had inadequate number of nurse anaesthetists, lacked jobs, were not motivated, had a short duration of exposure, and seemed like a "family friend" hospital specialist.

Onyeka (2010) conducted a cross-sectional study using self-administered questionnaires, interested in career choices among fifth and final year medical students in a medical training institution in Enugu, Nigeria. Out of 195 respondents, career interests merging first, second and third choices respectively showed Surgery (19%) in the lead, followed by paediatrics and public health (14% each), and obstetrics and gynaecology (11%). Anaesthesiology came in the eighth position with a percentage of 2%. At the bottom of the list were dentistry/maxillofacial surgery, haematology, and oncology. Results from this study resonate with the afore-mentioned findings which echo the paucity of anaesthesiology practitioners in various health systems. AlKhelaiwi et al. (2018) conducted a study to assess the perception of medical officers and house officers on anaesthesiology as a future career in Saudi Arabia. A cross-sectional study was deployed in the study. The study result revealed that among 5<sup>th</sup> and 6<sup>th</sup>-year medical students' interest in specialisation, surgery accounted for 38%, internal medicine accounted for 22%, while paediatrics accounted for 15%, family medicine for 9%, obstetrics and gynaecology for 3%, and other areas for 12%. (including 1% for anaesthesiology).

In summary, the trend in these studies (Nwasor 2010; Onyeka 2010; Abdul-Rahman et al. 2015; Gqiba et al. 2017; Manjoraan et al. 2021; AlKhelaiwi et al. 2018; Law et al. 2021), asserted

that both medical students and medical officers had a poor perception about anaesthesiology as a future career. This was because anaesthesiology as a career took much of their time, had little exposure to the job, had inadequate nurse anaesthetist, perceived to be family friend specialist, and attracted low income.

### **2.3 The factors that influence career choice by doctors.**

Yaseen (2015) sought to unveil the factors influencing the choice of anaesthesiology as a specialty among Kenyan Medical officers. The study adopted a cross-sectional descriptive study approach, in which a total of 290 participants were selected using a convenience sampling method. A semi-structured questionnaire was used to collect data from the respondents, then analyzed using descriptive and inferential statistics. The study's findings revealed that their choice of career was influenced by financial and material rewards, length of postgraduate program and flexible working hours.

Correia Lima de Souza et al. (2015) investigated factors influencing career choice among medical officers in Brazil. Using a cross-sectional research approach, a total of 1,223 medical students and doctors were selected using a simple random sampling method. A questionnaire was used to gather relevant data from the selected respondents. Data collected were analyzed using descriptive and inferential statistics. The study's findings revealed that lifestyle, financial, and personal time were important factors that influenced their career decision.

Aslam and Mujtaba (2015) examined the factors influencing career choice among doctors in Pakistan. The study used a quantitative research design, where a total of 385 consultants with different specialties all over Punjab were selected. A questionnaire was used to gather data from these consultants during the year 2012 to 2013. Moreover, Chi-Square was used to assess the association of choice of specialty with different factors. The study results revealed that medical doctors considered factors such as work-life balance, open communication with patients, clinical rotation, personal interest and inspiration during specialty or career selection. However,

Tuyishime (2017) also investigated the factors influencing the choice of anaesthesiology as a career by undergraduate students in Rwanda. The study used a qualitative research approach, where a secondary data source was used to obtain information about the factors influencing a student's career choice. Data were collected from academic journals and the entrepreneurial productivity of anaesthesiologists. Findings from the study revealed that long work hours, insufficient mentorship, low job opportunities and inadequate knowledge about the specialty were factors that influenced their choice of career.

Asad et al. (2019) examined factors influencing career choice among medical doctors in Punjab. A cross-sectional approach was used in the study, where 200 consenting post-graduate students and consultants who worked in the anaesthesiology department in both private and public hospitals were sampled. Data was collected using a questionnaire and analyzed using descriptive and inferential statistics. Findings from the study revealed that opportunity to learn procedure, promotion prospects and time for the family were considered in their selection of anaesthesiology as a career.

Idowu et al. (2020) conducted a questionnaire-based cross-sectional study that sought to examine the career preferences of final year medical students and house-officers in 2 institutions in southwest Nigeria. From a total of 130 respondents, the top-ranking factors for house officers' career choices from the 2 institutions were personal interest, past favourable clerkship/rotation experience, future job prospects, and the impact of a mentor.

Similarly, Levailant et al. (2020) investigated the factors influencing the career choice of doctors in France. A systematic literature system was adopted for the study, in which 751 studies were screened and fifty-four were included. Data was gathered from MEDLINE and Scopus from January 2010 to 2020 and then analyzed using a JBI and PRISMA recommendation. The study revealed that lifestyle, work-life balance and discipline interest were factors that influenced their choice of career.

Also, Manjooran et al. (2021) investigated factors that influence career choice by anaesthesiologists in South Africa. The study adopted a descriptive study design, where a total of 208 respondents were selected using a convenience sampling technique. A questionnaire modified from the United State was used to collect data from respondents in South Africa and analyzed using descriptive and inferential statistics. The study's findings revealed that factors that influenced the choice of career was dealing with one patient at a time, and most doctors prefer choosing the same career again.

Finally, Law et al. (2021) also investigated the factors influencing doctors to choose anaesthesiology as a career in Uganda. The study's findings revealed that the factors were nonmonetary incentives such as flexible working hours, extra leave, rewarding employees, and most importantly salary.

In summary, taking into account the trend in these studies (Yaseen 2015; Correia Lima de Souza et al. 2015; Aslam and Mujtaba 2015; Tuyishime 2017; Asad et al. 2019; Idowu et al. 2020; Levallant et al. 2020; Manjooran et al. 2021; and Law et al. 2021), it was revealed that financial reasons, work-life balance, open communication with patients, personal interest, clinical rotation, mentorship, and motivations were important factors that influenced their career decisions.

#### **2.4 Proposals on how to make anaesthesiology a more appealing speciality.**

Similarly, Yaseen (2015) also examined ways to revamp anaesthesiology and make the career an attractive specialty. Findings revealed that increasing the rotation time, having a more practical teaching approach, and a mandatory anaesthesiology rotation for doctors as well as students could increase the exposure to the specialty.

Again, Law et al. (2021) also suggested ways to improve anaesthesiology as a career and make it more attractive for doctors in Uganda. The study result revealed that the specialty could be attractive if salary augmentation is reviewed and considered in most government and private

hospitals. The study results revealed salary augmentation would not only make the career attractive but would retain anaesthesia providers.

Wenzel and Gravenstein (2016) conducted another review on anaesthesiology mentoring. A systematic literature review was used and the findings revealed the need to arrange a mentorship program for medical students.

Again, AL Gqiba et al. (2017) conducted a study on the perceptions of final-year medical students about anaesthesiology as a specialty choice. A quantitative research approach was used where questionnaires were administered to 112 respondents. The data collected was analyzed using Statistical Package for Social Sciences (SPSS) version 21. The results of the study revealed the need to increase the duration of undergraduate specialty to make anaesthesiology a more attractive specialty.

In the same way, Onyeka and Ewuzie (2010) conducted a study on the choice of future career amongst medical students in Nigeria. The study utilized the questionnaire in gathering information from 195 students in the sixth year. The data collected was processed using the Statistical Package for Social Sciences (SPSS) version 11.5. The results of the study disclosed the need for career opportunities and specialisation in anaesthesiology to be outlined for future specialists.

Also, Choo (2020) examined ways forward in making anaesthesiology an attractive career in Sub-Saharan Africa. The study used a qualitative research approach, where a secondary data source was used for the data collection. The study made use of academic journals from Pubmed literature. The study result revealed that the healthcare sector needs to establish strong coordinated humanitarian efforts to make the career more attractive. Again, the study revealed that human resource needs to be empowered and reorganized, provision of resources such as equipment, medications and most importantly a salary increment needs to be available to make the career more attractive for doctors and incoming students.

Davis et al. (2018) also recommended ways to make anaesthesiology a more attractive specialty in both low-income and middle-income countries. The study used existing country-level statistics on the number of physician anaesthesia providers, MMR and Human Development Index (HDI) to determine the number of anaesthetists in various countries. The study's findings revealed that the number of anaesthetists was low, therefore, training for doctors or medical officers needs to be intensified to increase the number of specialist anaesthetists, and make the career more attractive to incoming medical officers, or doctors and house officers.

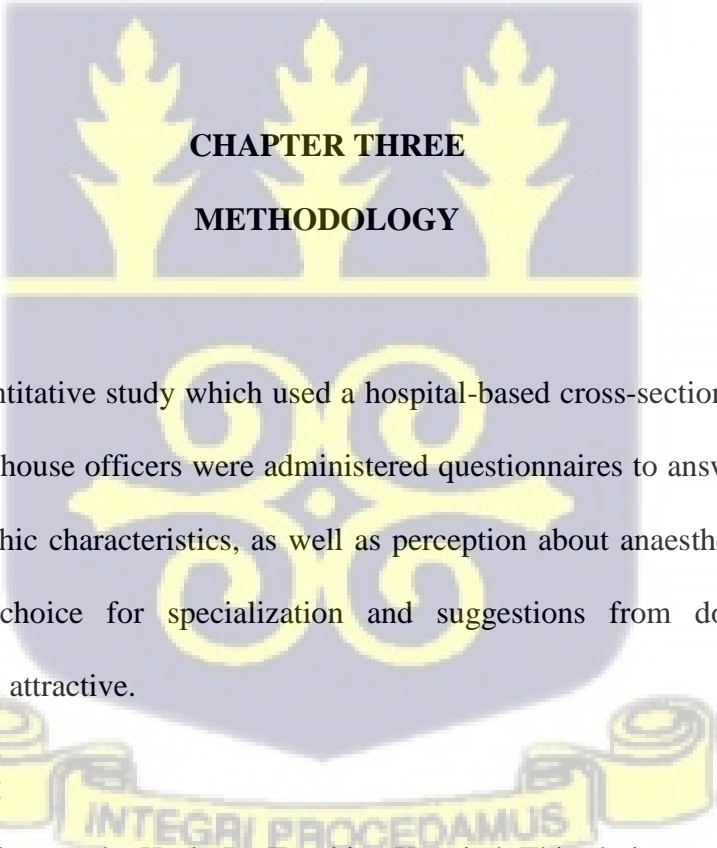
Furthermore, Chugh et al. (2018) also identified ways anaesthesiology can be made attractive for medical, and house officers, as well as students in Delhi, India. In this study, a cross-sectional approach was adopted. A total of 86 respondents were selected using the convenience sampling method. A questionnaire was used for the data gathering, and then analyzed using descriptive statistics. The study results revealed that forming a clinical teaching curriculum for incoming medical students, increasing the teaching hours at anaesthesiology clinics, and making anaesthesiology clinics a mandatory course for medical and house officers makes the job attractive for them to pursue as a career.

Also, Bhar et al. (2015) examined the way forward in making anaesthesiology attractive to be pursued as a career in India. The study used a cross-sectional approach, a total of 60 medical students were selected using a simple random sampling method. A questionnaire was used to gather relevant data from the selected respondent and then analyzed using descriptive statistics. Findings of the study revealed that anaesthesiology can be made attractive by exposing medical officers, and incoming medical students to the course and creating awareness irrespective of the wide spectrum of this course.

Finally, Peden, Campbell and Aggarwal (2017) examined ways of improving anaesthesiology from an international perspective. A secondary data source was used, where articles on the improvement of outcome in anaesthesia were reviewed to gather some relevant information.

The study revealed that a new model of payment, which uses long and short outcomes as payment incentives, should be adopted, and medical and house officers should work with patients to design care that meets their needs. This approach would not only make the career attractive but will increase the value of delivering quality evidence-based care at a reduced cost.

In summary, trends in these studies (Onyeka and Ewuzie 2010; Peden, Campbell and Aggarwal 2017; Bhar et al. 2015; Chugh et al. 2018; Davis et al. 2018; Choo 2020; Al Gqiba et al. 2017; Law et al. 2021; and Yaseen, 2015) revealed that increasing the rotation time, having a more practical teaching approach, salary augmentation, incentives, and a mandatory anaesthesiology rotation to doctors as well as students could increase the exposure to the specialty.



## CHAPTER THREE METHODOLOGY

### 3.1 Study design

The study was a quantitative study which used a hospital-based cross-sectional study design. Medical officers and house officers were administered questionnaires to answer questions on their socio-demographic characteristics, as well as perception about anaesthesiology, factors that influence the choice for specialization and suggestions from doctors to make anaesthesiology more attractive.

### 3.2 Study setting

The study was carried out at the Korle-Bu Teaching Hospital. This choice was due to the large number of the study population present at this hospital. It is a tertiary hospital which was built with an initial 200 beds capacity on October 9, 1923. It is the third-largest hospital in Africa and the leading national referral centre in Ghana. The hospital has a capacity of roughly 2000

beds and 21 clinical and diagnostic departments and 3 centres of excellence. When the University of Ghana Medical School was created in 1962 to train doctors, the hospital became a teaching hospital.

Medicine, Child Health, Obstetrics and Gynecology, Pathology, Laboratories, Radiology, Anaesthesia, Surgery, Family Medicine/Polyclinic, Accidents & Emergency, Reconstructive Plastic Surgery and Burns Centre and Psychiatry are among the hospital's departments.

Pharmacy, Finance, General Administration and Engineering are among the other departments.

Neurosurgery, Cardiothoracic Surgery, Paediatric Surgery, Dentistry, Ophthalmology, ENT,

Renal, Orthopaedics, Oncology, Dermatology, Radiotherapy and Nuclear Medicine,

RadioDiagnosis, and Reconstructive Plastic Surgery are among the sophisticated services

provided by the institution. The hospital has an average daily attendance of 1,500 patients and

250 patients on admission. (Korle-Bu Teaching Hospital, 2021).

### 3.3 Variables

Dependent or outcome variable: interest in anaesthesiology specialization

Independent: factors that influence the choice of specialty- personal factors, institutional factors, work-related factors

### 3.4 Study Population

The study population was medical officers and house officers working at the Korle-Bu Teaching Hospital. The officers were made up of 120 Medical officers and 189 House-officers, making a total of 309 doctors.

#### 3.4.1 Inclusion criteria:

- i. Medical officers and House officers working at the Korle-bu Teaching Hospital for any duration.

### 3.4.2 Exclusion Criteria

- i. Medical officers at the Korle-bu Teaching Hospital who have started a residency programme.

## 3.5 Sampling

### 3.5.1 Sample size

Sampling refers to the subset of people or objects selected from an entire population for the collection of data (Crossman, 2018). The sample size for the study was 192 Medical Officers and House Officers at the Korle-Bu Teaching Hospital. Sampling size determination (Yamane formula)  $n = \frac{N}{1+N(e)^2}$

Where;

N= Total Population of Medical Officers and House Officers at the Korle-Bu Teaching Hospital.

1 = Constant, e = Margin of error (0.05) and n = Sample Size n

$$= \frac{309}{1+ 309 (0.05)^2} = 174.3$$

Adding a non-response rate of about 10%.

Therefore;

$$\text{Non-response rate} = 174.3 * 0.1 = 17.4$$

$$174.3 + 17.4 = 191.7 \quad n = 192$$

Therefore, the sample size was 192 Medical Officers and House Officers at the Korle-Bu Teaching Hospital.

### 3.5.2 Sample technique

The study used the stratified random sampling technique (proportionate sampling). Each of the 5 departments where housemen are posted was represented by a stratum, that is, surgery, medicine, paediatrics, obstetrics & gynaecology and anaesthesia departments.

$$\text{Sampling fraction} = \frac{\text{sample size}}{\text{population size}} = \frac{192}{309} = 0.62$$

**Table 3.1: Population and sample size**

<b>Department</b>	<b>Population</b>	<b>Sample</b>
Surgery	56	35
Medicine	97	60
O&G	48	30
Paediatrics	68	42
Anaesthesia	40	25
<b>Total</b>	<b>309</b>	<b>192</b>

Simple random sampling was used to select the participants from each stratum. This was done by asking the doctors in the sampling frame to select papers labelled 'yes' or 'no' on their blind side. Those who selected 'yes' corresponding to the number of participants needed from that stratum were used for the study.

### **3.6 Data collection tools**

A self-administered questionnaire was used in this study for the data collection. A questionnaire is a set of questions used to collect information from a group of people (McLead, 2018).

Concerning the research objectives, the questionnaire contained closed-ended and openended questions. Closed-ended questions, unlike open-ended questions, restrict respondents from sharing their opinions or thoughts about the study. In addition, the questionnaire was separated into 3 sections: A, B and C. The demographics of the respondents were covered in Section A, while the study objectives were covered in Sections B and C.

### **3.7 Data collection methods**

An official letter was written and sent to the administration of Korle-Bu Teaching Hospital, requesting their permission to collect the data. The respondents were guided through the questionnaire after it had been approved for them to understand the objective of the study.

Questionnaires were thereafter given to the respondents for self-filling after their departmental morning meetings. The process took about thirty minutes. An approximated period of 5 days was used for data collection.

### 3.8 Quality Control

To ensure quality control in the study the following was ensured:

- i. Research assistants were recruited and trained. They were trained on the distribution, collection and collation of the research questionnaires. The training lasted for a day.
- ii. Data collected was double-checked each day to reduce possible data losses and verify for completeness and accuracy.
- iii. Research assistants were also trained on how to protect the confidentiality and privacy of participants.

### 3.9 Data processing and analysis

The data was coded and entered into the database of STATA 16 for data processing. The data was then analyzed using descriptive statistics (frequencies, percentage) and inferential statistics (chi square and multiple regression) to examine the association between variables of interest. In addressing the first objective of the study (To determine the perception of medical officers and house officers about anaesthesiology), a composite variable was generated (by computing all the responses together) from the various indicators or Likert scale questions that measure the perception of medical officers and house officers about anaesthesiology. The values generated from the composite variable which were between the scores of 9 to 45 (5-point Likert scale with 9 indicators) were divided into percentiles where 0% to 33%=good perception, 33.001% to 66% was the satisfactory perception, and 66.0001% to 100% was bad perception.

To address the second objective of the study (To identify the factors that influence anaesthesiology career choice by doctors), the various 5-point Likert scale response statements measuring the factor as stated in Section B of the questionnaire were recoded into agree (strongly agree and agree) and disagree (disagree, strongly disagree and neutral). The chisquared analysis was first used to establish an association between the various Likert scale type statements as stated in section B of the questionnaire (appendix A) and the dependent

variable which was the interest in anaesthesiology specialisation. Logistic regression was used to establish the extent of association existing between the various responses for the independent variables and the dependent variable. Also, the demographic variables were examined to see if any of them is a factor that influences the choice of a specialty in anaesthesiology. In doing this, Chi-squared analysis was first used to establish an association between the various demographic variables and the dependent variable which is the choice of a specialty in anaesthesiology. Logistic regression was used to establish the extent of association existing between the various demographic variables and the dependent variable. In both instances of analysis using logistic regression, the associations between the dependent and independent variables were interpreted using odds ratios and p-values that were generated.

To address the third objective of the study (To determine proposals from doctors on how to make anaesthesiology a more attractive specialty), descriptive statistics ( frequency, mean and standard deviation) was used to analyze the Likert scale response questions. A table was used to give a visual representation of the study results.

### **3.10 Ethical Consideration/ Issues**

#### **3.10.1 Ethical Clearance Approval from the Study Area**

An official letter was sent to the management of Korle-Bu Teaching Hospital-IRB to request ethical approval for the initiation of data collection. This was to ensure that the laid down procedure and approved protocols were followed to the letter.

#### **3.10.2 Potential Risks/ Benefits Compensation**

The study was relevant to the government, medical training institutions, health facilities, patients and the general public. The factors that influenced the choice of anaesthesiology as a future specialty by medical graduates were addressed in the study. The study results helped the University of Ghana Medical School, Korle-bu Teaching Hospital and the government put in

strategies to improve the number of doctors who develop an interest to specialize in anaesthesiology. The study also reinforced the strategies by the GCPS and WACS to improve the training of residents in Ghana. However, the potential risk associated with the study was that the participants may not be comfortable with the type of questions asked in the questionnaire.

### **3.10.3 Privacy/Confidentiality**

The rights of participants were explained to them and they were assured of confidentiality and anonymity. Personal information relating to respondents were not included in the questionnaire.

### **3.10.4 Data Storage and Usage**

The data collected from the hospital was kept under the care of the supervisor. Responses in the questionnaire were kept under lock and key. The resources used for the data collection and analysis were locked with a password known to the supervisor and the student only. The data collected were stored on a pen drive and were kept in the supervisor's office for future reference for 5 years.

### **3.10.5 Compensation**

There was no monetary compensation given to the respondents. However, respondents were thanked for participating in the study.

### **3.10.6 Voluntary Consent**

Before data collection, respondents were made to fill out a consent form showing their agreement to partake in the study.

### **3.11 Pre-test or pilot test**

The pilot test was done at the 37 Military Hospital since it has a similar training structure for House officers and Medical officers as the Korle-Bu Teaching Hospital. Ten respondents were selected using the convenience sampling method and administered questionnaires. Any

ambiguous questions that were identified by these participants were noted and factored into the design of the final questionnaire. An estimated period of 3 days was used for the pilot test.

## CHAPTER FOUR

### RESULTS

#### 4.1 Introduction

This chapter presents the results obtained from the analysis of data concerning the three specific objectives of the study. In line with this, the demographic profile of the respondents is presented first, followed by the results of the specific objectives of the study.

#### 4.2 Demographic profile of respondents

This section presents the demographic profile of respondents, which includes respondents' age, sex, practice years, medical school attended, department/station, and interest in anaesthesiology specialisation.

**Table 4.2: Demographic profile of the respondents**

	Question	Response	
	Frequency(n=192)	Percentage (%)	
Age	Less than 25 years	15	7.8
	25-29 years	87	45.3
	30-34 years	55	28.6
	35 years and above	35	18.2
	Total	192	100.0
Sex	Male	102	53.1
	Female	90	46.9
	Total	192	100.0

Practice years	Less than 2 years	97	50.5
	2-4 years	28	14.6
	5 years and above	67	34.9
	Total	192	100.0
Which Medical school did you attend?	University of Ghana Medical School	115	59.9
	KNUST	37	19.3
	UDS	4	2.1
	Other	36	18.8
	Total	192	100.0
	Total	192	100.0
Department/station	Anaesthesiology	25	13.0
	Obstetrics and Gynaecology	30	15.6
	Surgery	35	18.2
	Internal Medicine	60	31.3
	Paediatrics	42	21.9
	Total	192	100.0
	Total	192	100.0
interest in anaesthesiology specialization	No	136	70.8
	Yes	56	29.2
	Total	192	100.0

**Source: Field data, 2022**

As illustrated in Table 4.2, 87 (45.3%) of the respondents, which forms a majority, were 25 to 29 years of age. Meanwhile, 55 (28.6%) respondents were 30 to 34 years of age, 35 (18.2%) were 35 years and above, and 15 (7.8%) were less than 25 years.

Additionally, out of 192 respondents, 102 (53.1%) were males, and 90 (46.9%) were females. Furthermore, the majority, 97 (50.5%) of the respondents, had been practising medicine for less than 2 years. Meanwhile, 67 (34.9%) respondents had practiced medicine for 5 years and above whilst 28 (14.6%) had practiced for 2 to 4 years.

In the same way, out of 192 respondents, 115 (59.9%) respondents attended the University of Ghana Medical School whilst 37 (19.3%) attended KNUST, 4 (2.1%) attended UDS and 36

(18.8%) attended Other Medical schools (Donetsk national medical University, FMG, Foreign, RNRMU, RSMU- Russia, Tambov State University, Teropil National Medical University and Volgograd state medical university).

Likewise, most of the respondents, 60 (31.3%) in number, were in the Internal Medicine department. Meanwhile, 42 (21.9%) respondents were in the Paediatrics department, 35 (18.2%) were in the Surgery department, 30 (15.6%) were in the Obstetrics and Gynaecology department, and 25 (13.0%) were in the Anaesthesiology department.

Finally, the majority, 136 (70.8%) of the respondents, were not interested in anaesthesiology specialisation and 56 (29.2%) were interested in anaesthesiology specialisation.

#### 4.3 The perception of medical officers and house officers about anaesthesiology

This section presents the results, which seek to examine the perception of medical officers and house officers about anaesthesiology as a future career. The descriptive results are presented, followed by the results showing the perception level of the respondents.

**Table 4.3: Descriptive results of the perception of medical officers and house officers about anaesthesiology**

	N	Min Score	Max Score	Mean Score	Std. Dev
I see anaesthesiology to be "boring"	192	1.00	5.00	2.91	1.26
I think anaesthesiology is all about putting people to sleep and waking them up.	192	1.00	5.00	1.97	0.92
I feel anaesthesiology is complicated to comprehend	192	1.00	5.00	2.60	1.15
I think anaesthesiology is sensitive and risky.	192	1.00	5.00	3.31	1.03
I think anaesthesiology is demanding.	192	1.00	5.00	3.29	1.19

I feel anaesthesiology is a specialty with limited future opportunities.	192	1.00	5.00	2.73	1.29
I think anaesthesiology is a behind-the-scenes profession	192	1.00	5.00	3.18	1.19
Anaesthesiology is limited to administering drugs and monitoring patients intraoperatively.	192	1.00	5.00	2.31	1.32
I feel there is a low level of prestige associated with becoming an anesthesiologist as compared with other specialties	192	1.00	5.00	2.73	1.32

**Source: Field data, 2022**

As shown in Table 4.3, the mean score ( $X=2.91$ ) seems to suggest that the respondents do not see anaesthesiology to be boring. Also, the respondents do not think anaesthesiology is all about putting people to sleep and waking them up ( $X=1.97$ ) and they do not feel anaesthesiology is complicated and difficult to understand ( $X=2.60$ ). The results in the table further revealed that the respondents think anaesthesiology is sensitive and risky ( $X=3.31$ ) and they think anaesthesiology is demanding ( $X=3.29$ ). On the other hand, the respondents do not feel anaesthesiology is a specialty with limited future opportunities ( $X=2.73$ ). Additionally, the respondents think anaesthesiology is a behind-the-scenes profession ( $X=3.18$ ). Meanwhile, the mean score ( $X=2.31$ ) implies that the respondents do not perceive anaesthesiology to be limited to administering drugs and monitoring patients intraoperatively and they do not feel that there is a low level of prestige associated with becoming an anaesthesiologist as compared with other specialties ( $X=2.73$ ).

**Table 4.4: The level of perception of medical officers and house officers about anaesthesiology.**

	Frequency	Percentage
Good Perception	76	39.6
Satisfactory perception	52	27.1
Poor perception	64	33.3

**Total** **192** **100.0**

**Source: Field data, 2022**

As presented in Table 4.4, out of 192 respondents, 76 (39.6%) had a good perception of anaesthesiology. Meanwhile, 64 (33.3%) respondents had a poor perception, and 52 (27.1%) had a satisfactory perception of anaesthesiology.

#### 4.4 The factors that influence career choice by doctors

This section presents the results concerning the factors that influence career choice by doctors. The descriptive results are first presented, followed by the results of the chi-square analysis, which identifies an association between the dependent variables and independent variables. The results of the logistic regression are subsequently presented for the independent variables that show association with the dependent variable.

**Table 4.5: Descriptive results of the factors that influence career choice by doctors**

	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std. Dev</b>
The duration and level of exposure to the specialty during clinical clerkship	192	1.00	5.00	3.61	1.08
The ability to have a controlled lifestyle.	192	2.00	5.00	4.15	0.90
The amount of remuneration for practising a particular specialty.	192	1.00	5.00	4.10	1.03
The prestige attached to a particular specialty	192	1.00	5.00	3.46	0.97
The level of interaction between the specialists and patient during practice.	192	2.00	5.00	3.76	0.82

The level of exposure to experienced and trusted specialists during clinical clerkship.	192	2.00	5.00	3.97	0.76
The level of a job opportunity or future job prospects.	192	2.00	5.00	4.14	0.88
A previous positive clerkship experience with a particular specialty.	192	1.00	5.00	3.93	0.98
The learning potential in a particular field of specialty.	192	1.00	5.00	3.93	0.84
The influence of a family member to do a particular specialty	192	1.00	5.00	2.59	1.14

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**Source: Field data, 2022**

As shown in Table 4.5, the respondents noted that the factors that influence career choice by doctors were the duration and level of exposure to the specialty during clinical clerkship ( $X=3.61$ ), the ability to have a controlled lifestyle ( $X=4.15$ ), and the amount of remuneration for practising a particular specialty ( $X=4.10$ ). Also, from the table, respondents indicated that the prestige attached to a particular specialty influences career choice ( $X=3.46$ ) as well as the level of interaction between the specialists and patients during practice ( $X=3.76$ ). Again, the mean score ( $X=3.97$ ) seems to suggest that the respondents believe that the level of exposure to experienced and trusted specialists during clinical clerkship influences career choice. Furthermore, the respondents stated that the level of a job opportunity or future job prospects influences career choice ( $X=4.14$ ), a previous positive clerkship experience with a particular specialty influences career choice ( $X=3.93$ ), and the learning potential in a particular field of specialty influences career choice ( $X=3.93$ ). Lastly, the respondents do not think that there is an influence of a family member to do a particular specialty ( $X=2.59$ ).

#### 4.5 Bivariate analysis of Medical Officers and House officers and Interest in Anaesthesiology Specialisation.

This section presents the bivariate analysis of the demographic variables (age, sex, practice years, medical school, and department/station) as well as the bivariate analysis of the factors that influence career choice (personal, institutional and work-related factors) and interest in anaesthesiology specialisation.

**Table 4.6: Medical officers' and house officers' interest in anaesthesiology specialisation**

Variables	Interest in Anaesthesiology Specialisation			Chi-square	P-value
	No	Yes	Total		
<b>Age</b>				<b>12.639</b>	<b>0.005</b>
Less than 25 years	5(33.3)	10(66.7)	15(100.0)		
25-29 years	63(72.4)	24(27.6)	87(100.0)		
30-34 years	44(80.0)	11(20.0)	55(100.0)		
35 years and above	24(68.6)	11(31.4)	35(100.0)		
<b>Sex</b>				3.347	0.067
Male	78(76.5)	24(23.5)	102(100.0)		
Female	58(64.4)	32(35.6)	90(100.0)		
<b>Practice years</b>				<b>15.507</b>	<b>0.000</b>
Less than 2 years	58(59.8)	39(40.2)	97(100.0)		
2-4 years	27(96.4)	1(3.6)	28(100.0)		
5 years and above	51(76.1)	16(23.9)	67(100.0)		
<b>Medical School</b>				<b>22.397</b>	<b>0.000</b>
University of Ghana Medical School	67(58.3)	48(41.7)	115(100.0)		
KNUST	32(86.5)	5(13.5)	37(100.0)		
UDS	4(100.0)	0(0.0)	4(100.0)		
Other	33(91.7)	3(8.3)	36(100.0)		
<b>Department/ Station</b>				8.194	0.085
Anaesthesiology	15(60.0)	10(40.0)	25(100.0)		

Obstetrics and Gynaecology	24(80.0)	6(20.0)	30(100.0)
Surgery	30(85.7)	5(14.3)	35(100.0)
Internal Medicine	41(68.3)	19(31.7)	60(100.0)
Paediatrics	26(61.9)	16(38.1)	42(100.0)

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**Source: Field data, 2022**

As presented in Table 4.6, most, 63 (72.4%) of the respondents who were within the ages 25 to 29 indicated that they had no interest in anaesthesiology specialisation. Also, out of 55 respondents, 44 (80.0%) within the ages of 30 to 34 years disclosed that they had no interest in anaesthesiology specialisation. Again, out of 35 respondents, 24 (68.6%) who were 35 years and above stated that they had no interest in anaesthesiology. Conversely, out of 15 respondents, 10 (66.7%) who were less than 25 years noted that they had an interest in anaesthesiology specialisation. The p-value of 0.005, which is less than the 0.05 significance level, suggests that there is a statistically significant association between Age and Interest in Anaesthesiology Specialisation.

Furthermore, most respondents, 58 (59.8%), who practised medicine for less than 2 years disclosed that they had no interest in anaesthesiology specialisation. Meanwhile, out of 67 respondents, 51 (76.1%) who practiced medicine for 5 years and more indicated that they had no interest in anaesthesiology specialisation. Also, 27 (96.4%) respondents who had 2 to 4 years of practice disclosed that they had no interest in anaesthesiology specialisation. The pvalue of 0.000, which is less than the 0.05 significance level, implies that there is a statistically significant association between Practice years and Interest in Anaesthesiology Specialisation. Additionally, the majority, 67 (58.3%) of the respondents who attended the University of Ghana Medical School, disclosed that they had no interest in anaesthesiology specialisation. Again, out of 37 respondents, 32 (86.5%) who attended KNUST stated that they had no interest in anaesthesiology specialisation. Likewise, 33 (91.7%) respondents who attended other Medical

schools stated that they had no interest in anaesthesiology specialisation. Similarly, all the respondents 4 (100.0%) who attended UDS stated that they had no interest in anaesthesiology specialisation. The p-value of 0.000, which is less than the 0.05 significance level, implies that there is a statistically significant association between Medical School and Interest in Anesthesiology Specialisation.

However, there is no association between Sex, Department/station and Interest in Anaesthesiology Specialisation since their p-value of 0.067, and 0.085 respectively, are greater than the 0.05 significance level.

**Table 4.7: Bivariate Analysis of Medical Officers and House Officers and interest in Anaesthesiology Specialisation Interest in Anaesthesiology Speciali sation Variables No Yes Total Chi- P-value n (%) n(%) n(%) square**

<b>Duration and exposure</b>				<b>6.258</b>	<b>0.012</b>
Disagree	42(60.0)	28(40.0)	70(100.0)		
Agree	94(77.0)	28(23.0)	122(100.0)		
<b>Controlled Lifestyle</b>				<b>10.590</b>	<b>0.001</b>
Disagree	12(44.4)	15(55.6)	27(100.0)		
Agree	124(75.2)	41(24.8)	165(100.0)		
<b>Remuneration</b>				2.870	0.090
Disagree	22(59.5)	15(40.5)	37(100.0)		
Agree	114(73.5)	41(26.5)	155(100.0)		
<b>Prestige</b>				0.399	0.527
Disagree	54(68.4)	25(31.6)	79(100.0)		
Agree	82(72.6)	31(27.4)	113(100.0)		
<b>Specialist patient interaction</b>				0.868	0.352
Disagree	37(66.1)	19(33.9)	56(100.0)		
Agree	99(72.8)	37(27.2)	136(100.0)		
<b>Exposure to experienced and trusted specialists</b>				<b>9.953</b>	<b>0.002</b>

Disagree	19(50.0)	19(50.0)	38(100.0)		
Agree	117(76.0)	37(24.0)	154(100.0)		
<b>Job opportunity or future job prospects</b>				<b>5.117</b>	<b>0.024</b>
Disagree	18(54.5)	15(45.5)	33(100.0)		
Agree	118(74.2)	41(25.8)	159(100.0)		
<b>Positive clerkship experience with a particular speciality</b>				<b>8.420</b>	<b>0.004</b>
Disagree	19(51.4)	18(48.6)	37(100.0)		
Agree	117(75.5)	38(24.5)	155(100.0)		
<b>Learning potential</b>				0.009	0.924
Disagree	30(71.4)	12(28.6)	42(100.0)		
Agree	106(70.7)	44(29.3)	150(100.0)		
<b>Influence of a family member to do a particular speciality</b>				0.294	0.587
Disagree	107(69.9)	46(30.1)	153(100.0)		
Agree	29(74.4)	10(25.6)	39(100.0)		

**Source: Field data, 2022**

As illustrated in Table 4.7, most, 94 (77.0%) of the respondents who agreed that the duration and level of exposure to the specialty during clinical clerkship influences career choice had no interest in anaesthesiology specialisation. Also, out of 70 respondents, 42 (60.0%) who disagreed that duration and exposure to the specialty during clinical clerkship influences career choice disclosed that they had no interest in anaesthesiology specialisation. The p-value of 0.012, which is less than the 0.05 significance level, implies that there is a statistically significant association between duration and level of exposure to the specialty during clinical clerkship and Interest in Anaesthesiology Specialisation.

In addition, the majority, 124 (75.2%) of the respondents who agreed that the ability to have a controlled lifestyle influences career choice, disclosed that they had no interest in

anaesthesiology specialisation. Meanwhile, out of 27 respondents, 15 (55.6%) who disagreed that controlled lifestyle influences career choice indicated that they had an interest in anaesthesiology specialisation. The p-value of 0.001 which is less than the 0.05 significance level implies that there is a statistically significant association between Controlled Lifestyle and Interest in Anaesthesiology Specialisation.

Furthermore, most 117 (76.0%) of the respondents who agreed that exposure to experienced and trusted specialists influences career choice stated that they had no interest in anaesthesiology specialisation, whilst 19 (50.0%) respondents who disagreed with exposure to experienced and trusted specialists disclosed that they had no interest in anaesthesiology specialisation. The p-value of 0.002 which is less than the 0.05 significance level implies that there is a statistically significant association between exposure to experienced and trusted specialists and Interest in Anaesthesiology specialisation.

In the same way, out of 159 respondents, 118 (74.2%) who agreed that job opportunities or prospects influence career choice disclosed that they had no interest in anaesthesiology specialisation. Again, 18 (54.5%) respondents who disagreed with job opportunities or prospects influencing career choice stated that they had no interest in anaesthesiology specialisation. The p-value of 0.024 which is less than the 0.05 significance level implies that there is a statistically significant association between Job opportunity or future job prospects and Interest in Anaesthesiology specialisation.

Lastly, 117 (75.5%) of the respondents who agreed that positive clerkship experience with a particular specialty influences career choice indicated that they had no interest in anaesthesiology specialisation. Also, 19 (51.4%) respondents who disagreed with positive clerkship experience with a particular specialty disclosed that they had no interest in anaesthesiology specialisation. The p-value of 0.004 which is less than the 0.05 significance level implies that there is a statistically significant association between Positive clerkship

experience with a particular specialty and Interest in Anaesthesiology Specialisation. On the other hand, there is no association between Remuneration, Prestige, Specialist patient interaction, learning potential, Influence of a family member to do a particular specialty and Interest in Anaesthesiology Specialisation because their p-value of 0.090, 0.527, 0.352, 0.924 and 0.587, respectively, are greater than the 0.05 significance level.

**Table 4.8: Univariate and Multivariate analysis of the factors that influence career choice by doctors**

Variables	Interest in Anaesthesiology Specialisation							
	Crude Odds Value	95% CI		P-Ratio	Adjusted	95% CI		P-
		Lower	Upper			Lower	Upper	
<b>Age</b>								
Less than 25 years	1				1			
25-29 years	4.364	1.202	15.838	<b>0.025</b>	3.241	1.103	14.721	<b>0.014</b>
30-34 years	0.831	0.354	1.954	0.67	0.654	0.243	1.862	0.71
35 years and above	0.545	0.206	1.443	0.22	0.345	0.217	1.524	0.34
<b>Practice years</b>								
Less than 2 years	1							
2-4 years	2.143	1.072	4.286	<b>0.031</b>	1.567	1.013	3.245	<b>0.023</b>
5 years and above	0.118	0.015	0.939	<b>0.043</b>	0.234	0.024	0.842	<b>0.032</b>
<b>Medical School</b>								
UGMS	1				1			
KNUST	7.881	2.284	27.196	<b>0.001</b>	5.432	2.375	16.127	<b>0.011</b>
UDS	1.719	0.379	7.794	0.483	1.432	0.268	6.852	0.534

<b>Duration and exposure</b>								
Disagree	1				1			
Agree	2.238	1.183	4.235	<b>0.013</b>	1.432	1.235	3.432	<b>0.021</b>
<b>Controlled Lifestyle</b>								
Disagree	1				1			
Agree	3.780	1.637	8.732	<b>0.002</b>	2.754	1.542	6.451	<b>0.012</b>
<b>Exposure to experienced and trusted specialists</b>								
Disagree	1				1			
Agree	3.162	1.515	6.598	<b>0.002</b>	3.213	1.432	6.453	<b>0.013</b>
<b>Job opportunity or future job prospects</b>								
Disagree	1				1			
Agree	2.398	1.108	5.190	<b>0.026</b>	4.521	1.234	5.283	<b>0.014</b>
<b>Positive clerkship experience with a particular speciality</b>								
Disagree	1				1			
Agree	2.917	1.390	6.122	<b>0.005</b>	1.345	1.451	7.341	<b>0.013</b>

**Source: Field data, 2022**

As illustrated in Table 4.8, the univariate analysis revealed that respondents between the ages of 25 to 29 years were more likely as compared to those who were less than 25 years to be interested in anesthesiology specialisation (cOR =4.364; 95% CI =1.202-15.838). The univariate result was equally supported in the multivariate analysis (aOR =3.241, 95% CI =1.103-14.72).

Also, in the analysis, respondents who had practiced medicine for 2 to 4 years were more likely as compared to those who had practiced medicine for less than 2 years to be interested in anaesthesiology specialisation (cOR =2.143; 95% CI =1.072-4.286). The univariate result was equally supported in the multivariate analysis (aOR =1.567, 95% CI =1.013-3.245).

Likewise, the analysis indicated that the odds of respondents who had practiced medicine for 5 years or more as compared to those who had practiced for less than 2 years to be interested in anaesthesiology specialisation was less (cOR =0.118; 95% CI = 0.015-0.939). The univariate result was equally supported in the multivariate analysis (aOR =0.234, 95% CI =1.024-0.842). Furthermore, in the analysis, respondents who attended KNUST Medical School were more likely as compared to those who attended the University of Ghana Medical School to be interested in anaesthesiology specialisation (cOR =7.881; 95% CI =2.284-27.196). The univariate result was equally supported in the multivariate analysis (aOR =5.432, 95% CI =2.375-16.127).

In addition, respondents who agreed that the duration and level of exposure to the specialty during clinical clerkship influences career choice were more likely as compared to those who disagreed to be interested in anaesthesiology specialisation (cOR =2.238; 95% CI =1.183-4.235). The univariate result was equally supported in the multivariate analysis (aOR =1.432, 95% CI =1.1235-3.432).

Similarly, respondents who agreed that the ability to have a controlled lifestyle influences career choice were more likely as compared to those who disagreed to be interested in anaesthesiology specialisation (cOR =3.780; 95% CI =1.637-8.732). The univariate result was equally supported in the multivariate analysis (aOR =2.754, 95% CI =1.542-6.451).

Additionally, the analysis indicated that respondents who agreed that the level of exposure to experienced and trusted specialists during clinical clerkship influences career choice were more likely as compared to those who disagreed to be interested in anaesthesiology specialisation (cOR =3.162; 95% CI =1.515-6.598). The univariate result was equally supported in the multivariate analysis (aOR =3.213, 95% CI =1.432-6.453).

Again, in the analysis, respondents who agreed that the level of a job opportunity or future job prospects influences career choice were more likely as compared to those who disagreed to be more interested in anaesthesiology specialisation (cOR =2.398; 95% CI =1.108-5.190). The univariate result was equally supported in the multivariate analysis (aOR =4.521, 95% CI =1.234-5.283).

Finally, respondents who agreed that a previous positive clerkship experience with a particular specialty influences career choice was more likely as compared to those who disagreed to be more interested in anaesthesiology specialisation (cOR =2.917; 95% CI =1.390-6.122). The univariate result was equally supported in the multivariate analysis (aOR =1.345, 95% CI =1.451-7.341).

#### 4.6 Proposals from doctors to improve the appeal of anaesthesiology specialty.

**Table 4.9: How to make anaesthesiology specialty more appealing.**

	N	Min	Max	Mean	Std. Dev
There is a need to celebrate anaesthesiologists for their achievements on social media.	192	1.00	5.00	3.41	1.12
There is a need to organize CPD (continuous professional development) sessions in anaesthesiology for doctors.	192	1.00	5.00	4.22	0.82
There is a need to organize exchange programmes in anaesthesiology between local and foreign universities.	192	1.00	5.00	4.24	0.88

There should be sufficient mentorship in anaesthesiology.	192	1.00	5.00	4.31	0.82
The opportunities and financial incentives for specializing in anaesthesiology should be clearly outlined to potential specialists.	192	1.00	5.00	4.13	0.85
There is the need to increase the clinical clerkship duration for anaesthesiology	192	1.00	5.00	3.53	1.15

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**Source: Field data, 2022**

As illustrated in Table 4.9, the mean score ( $X=3.41$ ) seems to suggest that there is a need to celebrate anaesthesiologists for their achievements on social media. Also, the respondents noted that there is a need to organize CPD (continuous professional development) sessions in anaesthesiology for doctors ( $X=4.22$ ). Additionally, the mean score ( $X=4.24$ ) implies that there is a need to organize exchange programmes in anaesthesiology between local and foreign universities. Again, the respondents indicated that there should be sufficient mentorship in anaesthesiology ( $X=4.31$ ). Furthermore, the mean score ( $X=4.13$ ) seems to suggest that the opportunities and financial incentives for specializing in anaesthesiology should be clearly outlined to potential specialists. Finally, the respondents noted that there is a need to increase the clinical clerkship duration for anaesthesiology ( $X=3.53$ ).



## CHAPTER FIVE

### DISCUSSIONS

#### 5.1 Introduction

This chapter presents the discussion of results obtained from the data analysis. The discussions are done concerning results obtained by other related studies. The discussions are presented under the specific objectives of the study.

#### 5.2 The perception of medical officers and house officers about anaesthesiology.

Scientific evidence reveals that Anaesthesiology has failed to attract adequate number of medical students when it comes to their future career choices in the course of their education despite its primary role in modern healthcare delivery. Thus, the study assessed the perception of medical officers and house officers about anaesthesiology as a future career. Generally, in the context of this study, the results suggest that the level of perception of medical officers and house officers about anaesthesiology is good as depicted by 76 (39.6%) respondents. This positive perception is demonstrated in the fact that the respondents do not see anaesthesiology

as boring, or all about putting people to sleep and waking them up. The respondents indicated that they do not consider anaesthesiology to be difficult to understand, neither do they feel anaesthesiology is a specialty with limited future opportunities. Furthermore, they do not perceive anaesthesiology to be limited to administering drugs and monitoring patients intraoperatively and also do not feel that there is a low level of prestige associated with becoming an anesthesiologist as compared with other specialties.

Although generally, the results show that there was a good perception level, about 64 (33.3%) respondents showed a poor perception about anaesthesiology as a future career in that they consider anaesthesiology to be sensitive and risky, as well as a demanding field. The respondents further expressed their impression of anaesthesiology to be a behind-the-scenes profession. Thus, the results seem to show that the poor perception is almost on a par with the good perception (33.3% and 39.6% respectively). This result was in contrast to the study conducted by Abdul-Rahman et al. (2015) which revealed that medical students had no interest in anaesthesiology specialisation as only 2 (1.4%) showed interest and the majority described anaesthesiology to be boring and uninteresting, complicated and difficult to comprehend, sensitive and dangerous and demanding. In the same way, Idowu et al. (2020) found a poor perception of medical students and house officers' interest in anaesthesiology specialisation as the most popular specialties were Obstetrics and Gynaecology which was ranked first, Medical and surgical specialties ranked second and third respectively, followed by paediatrics. This highlights a possibility of a shift in perception, in this case an improvement, about a particular specialty with work experience in various fields. This is because doctors get the chance to work closely with the various specialists and form new impressions compared to what they perceived as students. Similarly, the results were in contrast to a study conducted by Majoraan et al. (2021) who found that medical officers had a poor perception about anaesthesiology since

careers took much of their time, were perceived as family friend specialists and attracted low income.

### **5.3 The factors that influence career choice by doctors.**

Trends in the selection of a career among doctors vary and the factors that prompt medical students to opt for anaesthesiology are unknown. This current study assessed the factors that influence career choice by doctors and concluded that generally the age, practice years, and medical school attended were the demographic factors identified to influence the choice to practice anaesthesiology by medical officers and house officers. This may be because age and practice years determine whether a doctor will pursue a particular career depending on the duration, skill and stamina required to specialize. Also, the experience and exposure in various specialties differ in the various medical schools which can influence the decision to venture into a particular field. Additionally, it was noticed that doctors who trained in KNUST compared to UGMS graduates were more likely to pursue anaesthesiology possibly due to the perceived need of anaesthesiologist during medical training which is more palpable at KATH compared to KBTH. Also, in as much as age is identified as a factor, doctors within the ages of 25 to 29 years were more likely to be interested in pursuing anaesthesiology as a specialisation compared to those who were 25 years and below. Again, other factors were identified to include the duration and level of exposure to the specialty during clinical clerkship, the ability to have a controlled lifestyle, the level of exposure to experienced and trusted specialists during clinical clerkship. Furthermore, future job prospects and a previous positive clerkship experience with a particular specialty are significant in influencing medical officers and house officers' interest in anaesthesiology specialisation. The respondents who considered duration and exposure to a specialty were more likely to be satisfied with pursuing anaesthesiology compared to those who disagreed. In addition, the respondents who agreed to have a controlled lifestyle were more likely to pursue anaesthesiology as a specialisation compared to those who disagreed. For

exposure to experienced and trusted specialists, respondents who had the opportunity to do internships and were exposed to experienced specialists were more likely to decide on specializing in anaesthesiology. It was evident that respondents who considered future job opportunities as a deciding factor were more likely to choose anaesthesiology as a career possibly due to the limited access to anaesthesiologists and therefore a profession in high demand which was recently displayed during the national strike by CRAs on 1<sup>st</sup> January 2022, leaving most hospitals, especially in the districts in chaos and in need of an anaesthesiologist. Similarly, those who agreed to a positive clerkship experience with a particular specialty as being a factor were more likely to choose anaesthesiology as a career. These findings were comparable to the study conducted by AlKhilawi et al. (2018) which revealed that having a controlled lifestyle (the option to choose when and how long they work), the duration of exposure to the specialty during clinical clerkship, and the level of exposure to experienced and trusted specialists or professors influenced medical students' interest in anaesthesiology specialisation. Another study conducted by Abdul-Rahman et al. (2015) found that the length of exposure during clinical exposure influences medical students' interest in anaesthesiology specialisation. Additionally, Yaseen (2015) also supported the results of this study stating that financial and material rewards, length of the postgraduate program and flexible working hours were factors that influenced their career decision. Furthermore, the current result was in line with a study conducted by Correia Lima de Souza et al (2015) whose study concluded that lifestyle, finances and personnel time were factors that influenced their decision to pursue anaesthesiology.

#### **5.4 Proposals from doctors to improve the appeal of the anaesthesiology specialty.**

The current study also assessed the suggestions from doctors on how to make anaesthesiology a more attractive specialty which revealed that there is a need to celebrate anaesthesiologists for their achievements on social media. Research is in line with Schwenk et al. (2017) study

which revealed that there is a need to acknowledge and promote the growth of anaesthesiologists using social media. Also, the respondents indicated that there is a need to organize CPD (continuous professional development) sessions in anaesthesiology for doctors. This will serve as a possible avenue for doctors to experience hands-on skills such as pain management in traumatic emergencies as well as administering spinal anaesthesia for minor surgeries. This could pique the curiosity and interests of a larger community of doctors in anaesthesiology. The respondents also indicated a need to organise exchange programmes in anaesthesiology between local and foreign universities. The current study result is similar to the study by Yaseen (2015) which revealed that there should be the introduction of mandatory anaesthesiology rotation programmes for undergraduate students. Furthermore, the respondents stated that there should be sufficient mentorship in anaesthesiology. Research conducted by Alisic et al. (2016) supports the current study as it revealed that a formal mentorship program should be organized for postgraduate medical students. Another study that backs the current result is by Wenzel and Gravenstein (2016) which also revealed the need to arrange a mentorship program for medical students. In the same way, the respondents agreed that the opportunities and financial incentives for specializing in anaesthesiology should be clearly spelt out to potential specialists. The study by Onyeka and Ewuzie (2010) supports the current results as it disclosed the need for career opportunities in anaesthesiology to be outlined for future specialists. Finally, it was revealed that there is a need to increase the clinical clerkship duration for anaesthesiology. This study result is in line with AL Gqiba et al. (2017) study which revealed the need to increase the duration of undergraduate clerkship to make anaesthesiology a more attractive specialty. Also, this current result was in line with a study conducted by Choo (2020) who found that salary augmentation, increasing the duration of teaching, mentorship programme, and creating awareness on anaesthesia were ways to make anaesthesiology attractive for medical officers, house officers or medical students. Davis et al. (2018), on the

other hand, recommended intensified training on anaesthesiology among medical officers and students to make the course attractive.

In a nut shell, these findings will go a long way to inform the government, under the Ministry of Health, and the various medical schools about the necessary policies which need to be implemented to plug the gap in training more doctors in anaesthesiology.

## CHAPTER SIX

### CONCLUSION AND RECOMMENDATIONS

#### 6.1 Introduction

The final chapter presents the conclusions based on the specific objectives of the study. Also, the recommendations based on the findings are presented. followed by limitations.

#### 6.2 Conclusion

The study assessed the factors affecting the interest of medical officers and house officers in anaesthesiology as a prospective field of specialisation at the Korle-bu teaching hospital and made the following conclusions based on each specific objective.

The study concludes that there is a good perception of medical officers and house officers about anaesthesiology. This is drawn from the fact that the respondents do not see anaesthesiology as boring, or all about putting people to sleep and waking them up, do not feel anaesthesiology is complicated to understand and do not feel anaesthesiology is a specialty with limited future opportunities. They also do not perceive anaesthesiology to be limited to administering drugs and monitoring patients intraoperatively and do not feel that there is a low level of prestige associated with becoming an anaesthesiologist as compared with other specialties.

Furthermore, the factors that influence doctors to choose anaesthesiology as a future career include the duration and level of exposure to the specialty during clinical clerkship, the ability

to have a controlled lifestyle, the level of exposure to experienced and trusted specialists during clinical clerkship. Additionally, future job prospects and a previous positive clerkship experience with a particular specialty were all significant in influencing the interest in anaesthesiology specialisation.

Finally, the proposals from doctors on how to make anaesthesiology a more appealing specialty include the need to celebrate anaesthesiologists for their achievements on social media, organizing CPD (continuous professional development) sessions in anaesthesiology for doctors, and organizing exchange programmes in anaesthesiology between local and foreign universities. Other suggestions include ensuring sufficient mentorship in anaesthesiology, opportunities and financial incentives for specializing in anaesthesiology should be clearly outlined to potential specialists and the need to increase the clinical clerkship duration for anaesthesiology.

### **6.3 Recommendation**

Based on the findings of the current study, the following are recommended:

- i. The findings established that there was generally a good perception among respondents about anaesthesiology as a future career. However, among a significant number of respondents, there were some poor perceptions. The study suggests that senior anaesthesiologists and medical schools need to improve the profile of the discipline, by changing the misconceptions attached to it and enhance its appeal to doctors. This can be done by dispelling the notion that anaesthesiology is a risky and dangerous profession during lectures in the medical schools.
- ii. The study revealed that duration and exposure, controlled lifestyle, exposure to experienced and trusted specialists, future job prospects, a previous positive clerkship experience with a particular specialty were the factors that influenced the interest in anaesthesiology specialisation. The study recommends the improvement of the factors

that enhance the interest of doctors in anaesthesiology specialisation. Medical schools should ensure optimal exposure to the specialty in the undergraduate curriculum and quality interactions and involvement of anaesthesiologists in undergraduate and postgraduate training through mentorship as well as mutual respect between faculty and students to improve their clerkship experience. Efforts should also be made by the various hospitals to make the working hours of anaesthesiologists more structured in order to give them a more controlled lifestyle.

- iii. Thirdly, the study recommends the need to intensify the celebration of anaesthesiologists for their achievements on social media in order to dispel the misconception of it being a behind-the-scenes profession as perceived by some. Medical schools are urged to intensify the clinical clerkship duration for anaesthesiology in order to enhance exposure to the field and build confidence in the students in order to minimize the perception of it being a risky career. CPDs should also be organized for all doctors to give them hands-on experience in anaesthesiology to pique their interest.
- iv. Finally, it will be a step in the right direction if government funding can be channeled into providing sponsorships for observaship programmes abroad for medical students and medical officers in the field of anaesthesia. Research funding can also be allocated for future studies after implementing the recommendations of this study.

#### **6.4 Recommendation for future studies**

The study suggests that future research should be expanded to include the use of the qualitative research method in obtaining more information from respondents. This will employ the mixed method which contains both questionnaires and interviews. The use of interviews helps to gain in-depth information from the respondents and a detailed comparative analysis between different specialties can be made to know what factors draw respondents to various specialties.

## 6.5 Limitations of the study

The findings of the study were views of doctors from only KBTH and may not be reflective of the whole country. In addition, the study relied on questionnaires to collect data, which has been criticized as making it impossible to determine if respondents are speaking the truth or not.

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## APPENDIX A: QUESTIONNAIRE

Dear Respondent,

My name is Sandra Seppey an MPH candidate at the University of Ghana. I am undertaking a research on the factors influencing the interest of house officers and medical officers in the anaesthesiology specialty at the Korle-Bu Teaching Hospital. Kindly accept my invitation to participate in this research by sparing some time to complete this questionnaire. The data provided will be used purely for academic purposes and will be treated with the utmost confidentiality. Please tick appropriately [] the options below each question

### Section A: Demographic Profile of Respondents

1. Age

- a. Less than 25 years [] b. 25-29 years [] c. 30 - 34 years [] d. 35 years and above []

2. sex

- a. Male [] b. Female []

3. Practice years

- a. Less than 2 years [] b. 2 to 4 years [] c. 5 years and above []

4. Which Medical school did you attend?

- a. University of Ghana Medical School [] b. KNUST [] c. UCC [] d. UDS []  
e. Other (Please specify) .....

5. Department/station
- a. Anaesthesiology [ ] b. Obstetrics and Gynaecology [ ] c. Surgery [ ] d. Internal Medicine [ ] e. Paediatrics [ ] g. Other (Please specify) .....
6. Are you interested in an anaesthesiology specialisation?
- a. Yes [ ] b. No [ ]

**Section B: The perception of medical officers and house officers about anaesthesiology.**

Kindly state your level of agreement or disagreement to the following statements describing the perception of medical officers and house officers about anaesthesiology as a future career where strongly disagree=1 disagree=2, neutral=3, agree=4 and strongly agree=5.

	1	2	3	4	5
7. I see anaesthesiology to be "boring"					
8. I think anaesthesiology is all about putting people to sleep and waking them up.					
9. I feel anaesthesiology is complicated and difficult to comprehend					
10. I think anaesthesiology is sensitive and risky.					
11. I think anaesthesiology is demanding.					
12. I feel anaesthesiology is a specialty with limited future opportunities.					
13. I think anaesthesiology is a behind-the-scenes profession					
14. Anaesthesiology is limited to administering drugs and monitoring patients intraoperatively.					

15. I feel there is a low level of prestige associated with becoming an anesthesiologist as compared with other specialties					
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**Section C: The factors that influence career choice by doctors.**

Kindly state your level of agreement or disagreement to the following statements describing the factors that influence career choice by doctors, where strongly disagree=1, disagree=2, neutral=3, agree=4 and strongly agree=5.

	1	2	3	4	5
16. The duration and level of exposure to the specialty during clinical clerkship					
17. The ability to have a controlled lifestyle.					
18. The amount of remuneration for practising a particular specialty.					
19. The prestige attached to a particular specialty					
20. The level of interaction between the specialists and patient during practice.					

21. The level of exposure to experienced and trusted specialists during clinical clerkship.					
22. The level of job opportunity or future job prospects.					
23. A previous positive clerkship experience with a particular specialty.					
24. The learning potential in a particular field of specialty.					
25. The influence of a family member to do a particular specialty.					

**Section D: Proposals on how to improve the appeal of the anaesthesiology specialty.**

Kindly state your level of agreement or disagreement to the following statements describing the suggestions on how to make anaesthesiology a more attractive specialty, where strongly disagree=1, disagree=2, neutral=3, agree=4 and strongly agree=5.

	1	2	3	4	5
26. There is the need to celebrate anaesthesiologists for their achievements on social media.					
27. There is a need to organize CPD (continuous professional development) sessions in anaesthesiology for doctors.					
28. There is a need to organise exchange programmes in anaesthesiology between local and foreign universities.					
29. There should be sufficient mentorship in anaesthesiology.					

30. The opportunities and financial incentives for specialising in anaesthesiology should be clearly outlined to potential specialists.					
31. There is the need to increase the clinical clerkship duration for anaesthesiology					

**Thank you**



**APPENDIX B: PARTICIPANT INFORMATION FORM**

**Purpose of the study**

My name is Sandra Amanorkie Seppey, a post-graduate student of the University of Ghana, School of Public Health. This questionnaire is to gather data for my MPH research on the topic: “Factors Influencing the Interest of House Officers and Medical Officers in

Anaesthesiology Specialty at the Korle-Bu Teaching Hospital.” Approval from the Korle-Bu Teaching Hospital-IRB has been acquired to collect data for this study. The information gathered would be utilized solely for academic work and kept completely confidential. Kindly tick the boxes as appropriate. Thank you for taking the time to take part in this study.

**Confidentiality**

To ensure privacy and anonymity, respondents are not required to put down their names.

**Data Storage and Usage**

The data collected from the hospital will be kept under the care of the supervisor. Responses in the questionnaire will be kept under lock and key. The resources used for the data collection and analysis will be locked with a password known to the supervisor and the student (principal investigator) only. The data collected will be stored on a pen drive and kept in the supervisor's office for future reference for 5 years. **Voluntary Withdrawal**

Agreement to participate in this study is strictly voluntary. You are therefore at liberty to pull out from the study whenever you want to. However, your answers are very important to help meet the study’s objectives.

**Compensation**

There will be no monetary compensation given to the respondents. However, respondents will be thanked for participating in the study.

Please, are there any questions you would like to ask about the study? Yes/No

If yes, kindly, indicate below

.....  
.....  
.....  
.....

**In case you have questions later, please contact Sandra Amanorkie Seppey, Department of Biological, Environmental and Occupational Health, School of Public Health, University of Ghana. (Tel: 0505-764-576) Email: [sandyseppey@gmail.com](mailto:sandyseppey@gmail.com)**

For further clarification about this research, you can also contact: The Secretary of the Research Office, Korle-Bu Teaching Hospital on telephone number 0302739510.

**I agree to participate in this study.**

-----  
Date  
----- Signature

**Signature Page**

**Sandra Amanorkie Seppey (STUDENT) .....**

**Prof. Mawuli Dzodzomenyo**

.....  
**(SUPERVISOR)** .....





In case of reply the number  
And the date of this  
Letter should be quoted

My Ref. No. *KBTH/MS/15/2021*  
Your Ref. No. ....



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6<sup>th</sup> December, 2021

SANDRA AMANORKIE SEPPEY  
SCHOOL OF PUBLIC HEALTH  
COLLEGE OF HEALTH SCIENCES  
UNIVERSITY OF GHANA, LEGON

**INSTITUTIONAL APPROVAL: KORLE BU TEACHING HOSPITAL-SCIENTIFIC  
AND TECHNICAL COMMITTEE/INSTITUTIONAL REVIEW BOARD (KBTH-  
STC/IRB/000150/2021**

Following approval of your study entitled “Factors Influencing the Interest of House Officers and Medical Officers in Anaesthesiology Specialty at the Korle-Bu Teaching Hospital” by the Korle Bu Teaching Hospital-Scientific and Technical Committee/Institutional Review Board.

I am pleased to inform you that institutional approval has been granted for the conduct of your study in Korle Bu Teaching Hospital.

Please contact the Heads of Departments to discuss the commencement date of the study.

Please note that, this institutional approval is rendered invalid if the terms of the Institutional Reviewed Board/Scientific and Technical Committee approval are violated.

Sincere regards,

Dr. Ali Samba  
Director of Medical Affairs  
For: Chief Executive



In case of reply the number  
And the date of this  
Letter should be quoted

My Ref. No. KBTH/MS/158721  
Your Ref. No. ....



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1<sup>st</sup> December, 2021

SANDRA AMANORKIE SEPPEY  
SCHOOL OF PUBLIC HEALTH  
COLLEGE OF HEALTH SCIENCES  
UNIVERSITY OF GHANA, LEGON

**FACTORS INFLUENCING THE INTEREST OF HOUSE OFFICERS AND MEDICAL OFFICERS IN ANAESTHESIOLOGY SPECIALTY AT THE KORLE-BU TEACHING HOSPITAL**

**KBTH-IRB /000150/2021**

**Investigator:** Sandra Amanorkie Seppey

The Korle Bu Teaching Hospital Institutional Review Board (KBTH IRB) reviewed and granted approval to the study entitled: *Factors Influencing the Interest of House Officers and Medical Officers in Anaesthesiology Specialty at the Korle-Bu Teaching Hospital*

Please note that the Board requires you to submit a final review report on completion of this study to the KBTH-IRB.

Kindly, note that, any modification/amendment to the approved study protocol without approval from KBTH-IRB renders this certificate invalid.

Please report all serious adverse events related to this study to KBTH-IRB within seven days verbally and fourteen days in writing.

This IRB approval is valid till 31<sup>st</sup> October, 2022. You are to submit annual report for continuing review.

Sincere regards,

MR. OKYERE BOATENG  
CHAIR (KBTH-IRB)

Cc: The Chief Executive Officer, KBTH  
The Director of Medical Affairs, KBTH