



Medical Laboratory Science: The cornerstone of contemporary medicine

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Abstract

Modern medicine is built on the basis of medical laboratory science, which performs a wide range of crucial tasks that support illness detection, treatment, prevention, and research. Its impact on clinical decision-making, public health policy, and the advancement of medical knowledge reaches well beyond the confines of the laboratory. Medical Laboratory Science (MLS) plays a vital role in modern healthcare. MLS specialists assess a range of patient samples, including blood, urine, tissue, and other biological fluids. These tests help physicians diagnose patients, monitor the effectiveness of medicines, and manage chronic illnesses. Laboratories are crucial for detecting infectious illness epidemics. They provide public health professionals with the vital data they require to keep an eye on.

Keywords: Medical Laboratory Science, cornerstone, contemporary medicine.

INTRODUCTION

Medical Laboratory Science is a medical science course that is exclusively offered at colleges or universities that specialize in health sciences. It is studied at the university in the College of Medicine, which is a part of the Faculty of Health Sciences. Medical Biochemistry, Human Anatomy, Human Physiology, Haematology, Pharmacology, Forensic Analysis, histopathology, Embalment Techniques, Clinical Pathology, Biostatistics, Virology, Medical Microbiology and Parasitology, Public Health and Epidemiology, among other courses are offered to medical laboratory science students [1].

It takes five years of university study to earn a bachelor's degree in medical laboratory science (BMLS), plus one year for an internship program and one year for NYSC, for a total of seven years of training. The entry requirement for candidates looking to study medical laboratory science in universities is a good cut off mark from the Unified Tertiary Matriculation Examination and Post-UTME plus a 5 credit pass in English language, mathematics, biology, chemistry, and physics at the WAEC, SSCE, or NECO, ordinary level, obtained in no more than two sittings. Additionally, those who hold an HND or BSc in a relevant field are eligible for direct entry into the 200 level [2].

The Medical Laboratory Science Council of Nigeria (MLSCN), a statutory regulating body created by the ACT 11 of 2003 as a parastatal of the Federal Ministry of Health, is the body that governs medical laboratory practice in Nigeria.

It gave the council broad authority to control Medical Laboratory Services through certification of laboratory test kits and reagents as well as the registration and licensing of medical laboratories and practitioners, mandatory inspection, monitoring for quality improvement, and accreditation monitoring and evaluation. The Act also gives the council the authority to control medical laboratories that are located in both public and private healthcare facilities, as well as their registration, regulation, licensing, and accreditation. Its national secretariat is located in Abuja, and Dr. Tosan Eraborh serves as its registrar and chief executive.

Undergraduate and graduate specializations in the following fields are available in medical laboratory science: a. medical microbiology and parasitology B. Microbiology and virology C. Epidemiology and Public Health D. Cytopathology and Histopathology, E. Either clinical chemistry or chemical pathology F. Blood group and hematology G. Serology, H. Immunology, etc., [3]

Medical Laboratory graduates work in Teaching and specialized hospitals, Primary health centers, research and private health centers, private establishments, quality control or reference laboratories, public health laboratories, and forensic and law enforcement laboratories are just a few of the places where Medical Lab scientist can find employment. By starting their own diagnostic/research laboratories, their graduates can work for themselves [4, 5].

Medical laboratory scientists perform a variety of tasks, including providing timely and accurate laboratory results, giving patients adequate information, tracking treatment responses, keeping an eye on the growth and spread of infectious and dangerous pathogens, and assisting in the selection of the most appropriate course of action [6].

An experienced detective, one who knows what to look for in hints and who can effectively convey their discoveries to provide insight on the best course of action, is needed for the detection, diagnosis, and treatment of disease. Medical lab scientists serve as the industry's detectives. They have a wide range of knowledge, including chemistry, hematology, microbiology, and more, and are frequently the first to identify cancer, diabetes, and other serious illnesses [7].

Scientists who work in medical labs are among the most essential members of healthcare teams. They examine biological samples, including blood, bodily fluids, and cells, and their analysis can assist clinicians make judgments. According to experts, medical lab scientists give doctors access to up to 70% of the patient's laboratory tests so they can make precise diagnoses and treatment decisions [8].

In conclusion, medical lab scientists are essential and are still in great demand, despite the fact that they may not interact directly with patients like other healthcare professionals. Even with the amazing advancements in medical knowledge and technology, diagnosis is still a difficult and sometimes confusing process. Accurate diagnosis is the key to accurate treatment.

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