

Medical Laboratories Quality Management and Challenges in Ethiopia: A Systematic Review

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Background: Although based on a single system, each laboratory should have their own quality management system, in Ethiopia, quality management systems in medical laboratories were introduced in 2009 with the aim of improving the quality of services.

Objective: This review was designed to evaluate the status of quality management practice and challenges among medical laboratories in Ethiopia.

Methods: A systematic qualitative review of the literature was made by searching the international electronic bibliographic database of PubMed (NML), web of science (IS), google scholar, African journal online (AJOL) and Cochrane Library.

Results: Thirty-six full-text articles, which were published between 2010 and 2022, were included in this review. In this review, 33 of 36 (91.7%) studies showed that status of quality management practice in Ethiopian medical laboratories was limited. As a result, the quality of medical laboratories was inadequate. The main challenges were problems associated with laboratory professionals (25/36=69.4%), inadequate support from management bodies (21/36=58.3%), limited on-job training access (5/36=13.9%) and high workload (5/36=13.9%).

Conclusions: The status of quality management practice among medical laboratories in Ethiopia is limited. The main quality compromising factors were problems associated with laboratory professionals, inadequate support from management bodies, high workload, and limited on-job training access. Therefore, all responsible stakeholders should focus on ensuring Quality Management Systems and the system should be applied in all Medical laboratories. Only this will ensure the improvement of quality within medical laboratories across Ethiopia.

Keywords: quality, medical laboratory, quality management system, implementation, challenges

Introduction

Quality in medical diagnostics defined as the reliability, accuracy, and timeliness of laboratory test results.¹ In medical laboratory practice, quality needs to be viewed as “systems thinking”, which is used in other business practices. Systemic thinking is a comprehensive analytical approach to understand how different elements interact within a system or structure for monitoring of quality in medical laboratories. Therefore, to ensure efficiency, effectiveness and accuracy of services provided to the customer, a quality system that monitors these areas is required.²

Inadequate quality of medical laboratory services results in producing wrong information, unnecessary expenditures, suffering and misery in human lives.³ For example, over-treatment of antibiotics for inappropriate clinical conditions leads to the development of drug-resistant microorganisms.⁴

Quality laboratory testing greatly affect the affordability and quality of patient care. Any errors or defects within a medical laboratory influences patient care and can also incur added costs.⁵ As a result, nowadays, quality is given a priority in many health care systems.⁶

Quality laboratory services need the practice of a quality management which focuses on applying twelve quality essentials; personnel, organization, purchasing and inventory, equipment, process control, documents and records,



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