

PATIENTS' AND STAFF PERCEPTION ON SERVICES PROVIDED BY THE CLINICAL LABORATORY DEPARTMENTS- A REVIEW OF THE LITERATURE

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ABSTRACT

The aim of this review was to identify patients and laboratory staff perception on services provided by clinical laboratory departments. A search was conducted to find published full-text English articles about the perceptions of patients and laboratory staff on services provided by the laboratory departments globally from January 2000 to April 2022. A total of 30 papers were retrieved, which reduced to 27 following removals of duplicates. The abstracts were screened using the eligibility criteria; 25 were found to match the criteria. After screening the full-text articles, 7 were excluded, resulting in a total of 18 articles. The significant findings and conclusions were extracted and grouped under themes. Factors found to affect laboratory services were, the quality of service, professionalism of the staff, knowledge and competency of staff, provision of adequate information to collect specimen, information of when and how to receive laboratory results, waiting time to receive laboratory results (turnaround time), availability of ordered laboratory tests, cleanliness of the laboratory room (s), location of laboratory room (s), availability and accessibility of toilets, occupational health and safety (OHS) and child friendly. The perceptions of both staff and patients highlight these areas of concerns which needed to be improved. Moreover, the results from this review could be used to implement workforce policies and strategies, which could improve laboratory services.

KEYWORDS: Laboratory Services, Patients, Perceptions, Laboratory Staff.

INTRODUCTION

Clinical laboratory plays a crucial role in medical diagnostic method as it aids in patient management and prognosis of patient related outcomes.^[1] Over time, laboratory methods have improved, allowing for more precise diagnosis and faster turnaround time of lab-based results. According to the World Health Organization (WHO), well-functioning laboratory services are a vital aspect of health systems and public health, particularly in terms of infectious disease, targeted illness diagnosis, surveillance, and monitoring.^[2] The clinical laboratory department usually consist of various units/sections responsible for different functions and tests. The Laboratory testing cycle can be divided into three phases; the pre-analytical, analytical and the post-analytical phase.^[3]

Quality assessment is an integral part of the clinical laboratory. It is normally focused on technical problems, such as the quality of the results and procedure of delivering care. However, this becomes more specific as

it is based on the implementation of the convention that incorporate the patients' perspectives and experiences. Patient satisfaction is influenced by a variety of aspects that all contribute to the patients' overall impressions. Patient satisfaction is determined by the characteristics and efficiency of service, but it is also affected by a number of other factors, including the professionalism of the staff, the availability of adequate information to collect specimens and how and when to receive laboratory results, the time it takes to receive laboratory results, the availability of ordered laboratory tests, the cleanliness of the laboratory room, its location, and the availability and accessibility of toilet facility.^[4]

In addition, to the perception of patients, it is also very important to look at the laboratory staff perceptions as it helps in defining the major reason why patients have a preconceived notion of the laboratory department's services. Job dissatisfaction is typically the root of high staff turnover, whereas a happy person prefers to stay in a job longer. There's a correlation between job

satisfaction and a feeling of accomplishment. If laboratory scientists' impressions of their jobs differ from what they see on the job, it will undoubtedly alter how they feel about it.^[5] Changing work responsibilities and role expectations can have a major positive or negative impact on job satisfaction.^[6] To increase laboratory staff commitment to their profession and the provision of quality healthcare services, the laboratory setting should encourage continuous quality improvements and be supportive in terms of working conditions, organizational hierarchy, supervision, social communication, benefits, flexibility at work, and opportunities for career advancement.

There is very little research done in the field of Medical Laboratory and especially on the perceptions of Laboratory Staff and Patients. The Fiji Islands Health System Review, 2011 report failed to address concerns such as patient care, service delivery, laboratory staff attitudes, and the overall problem of not being able to provide optimal laboratory services owing to a lack of resources, training, and equipment failure.^[7] Thus, the aim of this review is to look at the perception of patients and laboratory staff.

METHODOLOGY

Search strategy & Information Sources: This review was performed in accordance with the Preferred Reporting Items for Systematic Reviews and

Meta-Analyses (PRISMA). An electronic search was conducted in Medline, Embase, Scopus, and ProQuest databases. The keywords used included: (Laboratory OR Services OR Perception) AND (Lab* OR “Medical Laboratory” OR “Clinical Laboratory”) AND (“Laboratory Services” OR “Service provided”) AND (Patient Perception).

RESULTS

During the selection process, a total of 30 papers were retrieved, which reduced to 27 following removals of duplicates. The abstracts were screened using the eligibility criteria, 25 were found to match the criteria. After screening the full-text articles, 7 were excluded, resulting in a total of 18 articles [Figure 1]. These 18 articles were selected in the review; significant findings and conclusions were extracted and grouped, to formulate the themes made in this study. The included articles are summarized in Table 1.

DISCUSSION

In this section two theme are discussed. Theme 1 is the perception of Patients on Laboratory Services provided and Theme 2 is the Laboratory Staff perception on Laboratory Services provided.

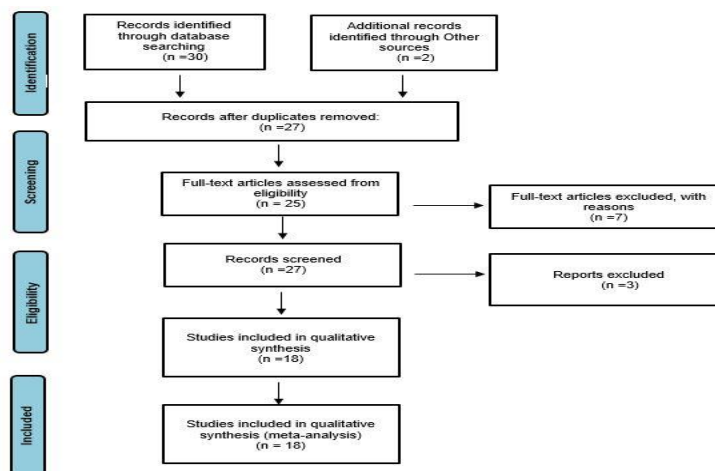


Figure 1: Flow chart for the search process indicating numbers (n) of included and excluded studies.

| Table 1: Included Articles. | | | | |
|-----------------------------|---|--|------|-------------------|
| NO. | Authors | Title | Year | Type |
| 1. | M S Sajid & M K Baig | Quality of health care: an absolute necessity for public satisfaction | 2007 | Review |
| 2. | Victoria L. Anderson | Customer Service and Its Importance in the Clinical Laboratory | 2008 | Review |
| 3. | Paula I Oja , Timo T Kouri & Arto J Pakarinen | From customer satisfaction survey to corrective actions in laboratory services in a university hospital | 2006 | Original Research |
| 4. | Asmamaw Alelign & Yihalem Abebe Belay | Patient satisfaction with clinical laboratory services and associated factors among adult patients attending outpatient departments at Debre Markos referral hospital, Northwest | 2019 | Original Research |

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|-----|---|--|------|-------------------|
| | | Ethiopia | | |
| 5. | Demiss Mulatu Geberu, Gashaw Andargie Bikis, Tsegaye Gebremedhin & Tesfaye Hambisa Mekonnen | Factors of patient satisfaction in adult outpatient departments of private wing and regular services in public hospitals of Addis Ababa, Ethiopia: a comparative cross-sectional study | 2019 | Original Research |
| 6. | Patrick Adu | A cross-case analyses of laboratory professionals-patients interaction for patients accessing laboratory services at University of Cape Coast hospital and Ewim Polyclinic in the Cape Coast Metropolis, Ghana | 2021 | Original Research |
| 7. | Ian J. Litchfield, Louise M. Bentham, Richard J. Lilford, Richard J. McManus, Ann Hill & Sheila Greenfield | Adaption, implementation and evaluation of collaborative service improvements in the testing and result communication process in primary care from patient and staff perspectives: a qualitative study | 2017 | Original Research |
| 8. | Jignesh Sharma, Richard D. Nair, Masoud Mohammadnezhad & Shayal Singh | Patients' Perceptions On Facilitators and Barriers of Utilization of Clinical Laboratory Services: Suggestions For Pacific Nations | 2021 | Review |
| 9. | Elissa Passiment | Update on the laboratory workforce-shortage crisis | 2006 | Original Research |
| 10. | N Al-Enezi, M A Shah, R I Chowdhury, A Ahmad | Medical laboratory sciences graduates: are they satisfied at work? | 2008 | Original Research |
| 11. | Jignesh Sharma & Richard D. Nair | COVID-19 related challenges faced by Medical Laboratory Staff: A Review of Literature | 2021 | Review |
| 12. | Stuart S Olmsted, Melinda Moore, Robin C Meili, Herbert C Duber, Jeffrey Wasserman, Preethi Sama, Ben Mundell & Lee H Hilborne | Strengthening laboratory systems in resource-limited settings | 2010 | Review |
| 13. | Durairaj Rajan | Work Stress Among Medical Laboratory Technicians: A Comparative Study | 2015 | Original Research |
| 14. | Edna Garcia, MPH, Iman Kundu, MPH & Karen Fong | The American Society for Clinical Pathology's 2017 Wage Survey of Medical Laboratories in the United States | 2019 | Original Research |
| 15. | Muna Mohamed Elamin, Salih Boushra Hamza, Yassin Abdelrahim Abdalla, Ahmed Alsayed Mohammed, Mustafa, Mosab Abbas Altayeb, Maria Adam Mohammed, Radi Tofaha Alhusseini, Mohamed Fathelrahman & Mohammed Abass | The Psychological Impact of the COVID-19 Pandemic on health professionals in Sudan 2020 | 2020 | Original Research |
| 16. | Lourdes Luceño-Moreno, Beatriz Talavera-Velasco, Yolanda García-Albuérne & Jesús Martín-García | Symptoms of Posttraumatic Stress, Anxiety, Depression, Levels of Resilience and Burnout in Spanish Health Personnel during the COVID-19 Pandemic | 2020 | Original Research |
| 17. | Harcharanjit Singh, Jeffry Joe Meyer, Nur Naha Abu Mansor, Soon Singh & Morro Krubally | The Impact of Service Quality Delivery Towards Customer Satisfaction in Medical Diagnostics Laboratory Industry | 2018 | Original Research |
| 18. | Bhanu Prakash | Patient satisfaction | 2010 | Review |

Theme 1: Patient's perception on laboratory services

Patient impressions are crucial, and it's critical that their opinions and suggestions are taken into account and implemented. A study that demonstrated the necessity of a high-quality health-care system in ensuring long-term care. Quality assessment is normally focused on technical problems, such as the procedure by which care is delivered; however, it becomes more accurate when it is based on the implementation of the action plan that incorporate the patients' perspectives, experiences, and perceptions. Patient satisfaction is influenced by a

variety of aspects that all contribute to the patients' overall impressions.^[8]

Patient satisfaction is influenced by: The quality of service; Professionalism of the staff; Knowledge and Competency of Staff; Provision of adequate information to collect specimen; Information of when and how to receive laboratory results; Waiting time to receive laboratory results (Turnaround Time); Availability of ordered laboratory tests; Cleanness of the laboratory room; Location of laboratory room; Availability and

accessibility of latrine; Occupational Health and Safety (OHS); Child friendliness.

Customer service has typically been a business word, but it has made its way into the health-care lexicon in recent years. As a result, several projects in health care have been launched to integrate customer service throughout the facilities. Health-care providers in the public sector have realized what the corporate sector has known for years: excellent customer service sets one provider apart from another. They discovered that effective customer service must be incorporated at all levels of an organization, but that it is challenging and requires a cultural shift. The way co-workers interact sets the tone for patient relations as well. It is vital to be always considerate and respectful of others, whether the encounters are with patients, clients, co-workers, friends, or acquaintances. The components of providing good customer service are as follows^[9]: Listen; Understand; Respect the need for the request; Respond; Ask if there is anything else you can do; Always remain friendly, courteous, and professional.

In health-care, customer orientation is becoming increasingly important. The use of management systems, such as the balanced scorecard, and the introduction of quality standards, such as ISO 15189 and ISO 17025, in clinical laboratories have further highlighted the customer perspective in the enhancement of laboratory service. Reaching and utilizing the customer perspective is a difficulty for clinical laboratory management. Conducting a satisfaction survey is a common way to get client feedback. Satisfaction surveys allow the rating level of satisfaction. However, surveys alone may not be able to disclose the root causes of unhappiness. Clarifications with specific customers are also required. A study showing the score of satisfaction of customers on a 5-point Likert scale: 1 (strongly agree), 2 (agree), 3 (neither agree nor disagree), 4 (disagree), and 5 (strongly disagree) (strongly disagree). A combined proportion of the two categories of disagreement (disagree and strongly disagree) of 20% was considered a significant level of dissatisfaction as a screening technique.^[10]

Patient satisfaction is an important and widely used metric for assessing the quality of services in any health-care system. Patient satisfaction has a favourable impact on clinical outcomes, patient adherence and retention, work satisfaction, and physicians' ability to provide appropriate clinical treatment. On the other hand, dissatisfaction is caused by a mismatch between patient expectations and the service provided. The service quality and professionalism of the staff, the provision of adequate information to collect specimens and when and how to receive laboratory results, the waiting time to receive laboratory results, the availability of ordered laboratory tests, the cleanliness of the laboratory room, the location of the laboratory room, and the availability and accessibility of latrines all influence patient satisfaction with clinical laboratory services. Long wait

times were cited as a reason for people not returning to the same hospital for laboratory services in an Ethiopian research. When asked how long it takes to acquire results, the majority of individuals (82.4%) said it takes more than an hour. Patient satisfaction with clinical laboratory services was also found to be linked to opening hours.^[11]

Patient satisfaction is a simple premise that applies to the entire health system, and it is also used to measure how responsive the health system is. Patient satisfaction is a measure of the level of the health content they receive from their providers, despite the fact that an agreed-upon definition is difficult to come by. Patient satisfaction is determined by the patient's expectations and subsequent experience with healthcare providers. Furthermore, it is exhibited through an emotive reaction to the disparity between what patients expect and what they receive. If the patients receive service that falls short of their expectations, they will be disappointed. In other words, if the service provided meets or exceeds the patients' expectations, the patients will be satisfied. Measuring patient satisfaction can aid in the improvement and maintenance of service quality. Furthermore, patient satisfaction evaluation and knowledge are critical for providers to understand their performance status, as well as a significant tool for assessing and anticipating client expectations. Furthermore, in order to monitor quality patient care procedures, patient satisfaction monitoring is increasingly incorporated with hospital management initiatives. It is also a direct measurement of an organization's strengths and service delivery success.^[12] Furthermore, it is critical to communicate crucial details to your patients so that they are aware of how long everything takes and what procedures will be performed. Because educating patients ensures that customers are aware of how long they will have to wait, it also demonstrates that the staff is mindful of his or her working environment. Only half of patients (50.6 percent; 45/89 patients) said they knew when their test results would be ready, according to a study in Ghana. While 93.3 percent of laboratory professionals said it was important to communicate the testing turnaround time to patients, only half of patients (50.6 percent; 45/89 patients) said they knew when their test results would be ready.

As a result, while laboratory staff recognize the importance of communicating testing turnaround time to patients, it is not done on a regular basis. This was noted by numerous laboratory workers, who alluded to high workload pressure as a major impediment to good patient communication in various ways. Patients are generally unaware of their planned laboratory testing, according to the study. Only 28.1 percent of patients said they were aware of the nature of their laboratory work and tests being performed. When patients had been asked to specify the precise laboratory tests they were having, less than 15% were able to correctly identify their testing.^[13]

To ensure that the patient-staff bond is not jeopardized and to address the areas of weakness, which vary by practice, individual staff attitudes, and organizational and patient characteristics, a collaborative approach is required. Further quantitative analysis of the changes' long-term impact is required.^[14]

Theme 2: Laboratory staff perceptions of their work

Effective diagnostic laboratory relies on clinical laboratory science. Laboratory services are essential for disease detection, diagnosis, and treatment. As a matter of fact, medical laboratory scientists think of their work, qualities, and characteristics in the same way that other healthcare professionals do. This lack of professional recognition is likely to irritate MLS employees, reduce their job satisfaction, and, as a result, lower the quality of laboratory analysis services provided to patients. Clinical laboratory directors continue to struggle to recruit and retain graduates from Medical Laboratory Science schools.^[4]

Furthermore, it is well recognized that job dissatisfaction is typically at the root of high employee turnover, whereas a happy person prefers to stay in a job longer. There's a correlation between job satisfaction and a sense of achievement. If medical laboratory scientists' impressions of their jobs differ from what they see on the job, it will undoubtedly alter how they feel about it.^[15]

Changing work responsibilities/roles and expectations can have a major positive or negative effect on job satisfaction.^[2] The medical laboratory environment should be welcoming in terms of work, organizational hierarchy, supervision, interpersonal relationships, benefits, flexibility at work, and career development opportunities in order to increase laboratory staff commitment to their profession and the delivery of high-quality healthcare services. For medical laboratory technologists to stay current with laboratory related innovations, attain job satisfaction, and provide good service, they must pursue continuing education.^[16]

Additionally, access to accurate laboratory testing is limited in many resource-constrained nations. This can result in delayed diagnosis, misdiagnosis, and insufficient or incorrect treatment, resulting in increased morbidity and mortality. A multitude of factors have been attributed for the lack of laboratory access. Limited numbers of competent professionals, educators and training programs, insufficient logistical support, de-emphasis of laboratory testing, insufficient test monitoring and management, decentralization of laboratory facilities, and a lack of government requirements for laboratory testing are just a few of the challenges.^[17]

Workplace stress is increasingly becoming more frequently recognized as one of the most serious occupational health hazards, affecting employee satisfaction while also increasing absenteeism and

turnover. The two fundamental components of stress are physiological and psychological stress. Physiological stress is often thought of as the body's physiological response to a variety of stressful workplace factors, such as headaches and sleep problems. Psychological stress is sometimes misinterpreted as an emotional response to workplace pressures including worry, despair, and exhaustion.^[18] Due to the nature of their work, laboratory personnels are exposed to both types of stress while doing their duties. This has an effect on the performance of the laboratory workers, which has an effect on test turn - around time and results delivery delays. Other factors that may influence employee performance include persistent long working hours, ergonomic working conditions, compensation, lack of recognition, lack of promotion chances, and an unattractive working atmosphere. One of the most significant causes of employee dissatisfaction is that employees are underpaid for the amount of work they perform. This is also a factor that affects employee retention.^[19]

Healthcare workers have been proven to be more psychologically scarred and to have higher levels of stress, sadness, and anxiety than the general population. This can be described by their fear of becoming infected as a result of their risk of being exposed and concern about illness transmission to their relatives, friends, or co-workers. This puts them in a difficult position of balancing professional responsibilities, humanity, and personal fear for oneself and others, a circumstance that can lead to conflict and dissonance among laboratory workers. Apart from exposure, health professionals experience stress and worry about being ill or dying, a sense of helplessness, or being blamed by others who are ill, all of which can lead to mental breakdown. Depression, anxiety, panic attacks, somatic symptoms, and post-traumatic stress symptoms have all been discovered, as have delirium, psychosis, and even suicide.^[16]

These signs have been linked to a younger age, as well as heightened feelings of guilt, stigmatization, and social avoidance. High alertness, anger, loss of motivation at work, difficulty concentrating, and trouble falling asleep were among the symptoms of post-traumatic stress, anxiety, and depression seen in health professionals. Individuals who are resilient have lower levels of irritation, less concern about external stimuli, stronger interpersonal interactions, fewer headaches, musculoskeletal discomfort, and depression. If these symptoms persist, the laboratory employees may have a sense of loss of control and uncertainty at work, leading to burnout. It is marked by extreme emotional weariness, depersonalization, and a lack of personal accomplishment. Dysphoric symptoms, such as fatigue or emotional exhaustion, may be experienced by lab personnel.^[20]

Individuals who had previously shown no psychosocial changes begin to develop symptoms in relation to job

settings. Burnout is also linked to a drop in work performance as a result of bad attitudes toward work. Burnout has been identified in health workers exposed to traumatic conditions during the epidemic, as well as a loss in their ability to employ coping methods or unfavourable attitudes toward work. Burnout can lead to the intention to leave the job, which would incur large costs, in addition to the symptoms of weariness linked to worry, despair, or other symptoms linked to physical pathologies (e.g., cardiovascular difficulties).^[21]

Patient satisfaction is influenced by the quality of service and professionalism of the staff, the provided with adequate information to collect specimens and when and how to receive laboratory results, the time it takes to receive laboratory results, the availability of ordered laboratory tests, the cleanliness of the laboratory room, its location, and the availability and accessibility of latrines.^[22] The manner in which employees engage with patients indicates the quality of service provided. Patients place a high value on the quality of healthcare services and the professionalism of the staff, as well as a pleasant atmosphere and customized attention. Any health care facility that delivers services should ensure that the areas provided to departments are clean and safe for patients. When it comes to consumer satisfaction, the laboratory department's OHS is crucial since no patient wants to be examined or treated in an unsanitary environment.^[23]

Pre-analytical errors are typically caused by incompetence or a lack of awareness of laboratory processes; it is usual for workers who care for patients to make these minor errors, which cause the total analytical process to be delayed. The largest frequency of errors, the highest risk to professionals' health, and the highest rates of human error can all be found during this phase. According to studies, between 40% to 70% of errors occur during the pre-analytical phase, with some of these errors being: patient preparation, selecting and site preparation for blood collection, tourniquet application and time, proper venepuncture technique, order of draw, proper tube mixing, proper tube handling and specimen processing, centrifugation, special handling of blood specimens, stability for whole blood specimens.^[4] As a result, it is necessary to examine laboratory staff perceptions in order to discover the challenges that they may be encountering in their particular contexts.

CONCLUSION

Medical Laboratory plays an integral part in diagnosis of many health-related issues for patients, thus it is very important to ensure that patient satisfaction is key. Thus, laboratory staff should always ensure that their patients are attended to at the optimum level without any problems. As important as patient perceptions are to the quality of the laboratory, the perceptions of laboratory staff are as equally important. If the staff are satisfied with the working environment, then only will they be able to serve the patients well. Both patient and

laboratory staff perception together help improve the overall service and improve the quality of the testing laboratory and help maintain the standards of the facility.

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