
Internists' Satisfaction with Clinical Laboratories Services of Basra City: A Pilot Study

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ABSTRACT

BACKGROUND: The quality of laboratory services is a very important tool for patient care. Medical decisions in diagnosing disease and providing appropriate treatment mainly depends on the results of laboratory tests jointly with the clinical examination and interview. So this study was conducted to assess the confidence of internists in laboratory services and to analyze the strengths and limitations imposed on these services.

METHOD: A cross sectional study was conducted among 53 respondent internists from government and private sector laboratories in Basra Governorate from 1st of April to 30th of May 2022. This study included doctors specialized in internal medicine in private and public hospitals and clinics. A structured, self-administered questionnaire was used, which consisted of a 2-5 point Likert scale questions with 22 survey principles and two main sections: personal information and data on services provided by laboratories. All participants were informed of the contents of the questionnaire form and gave consent. The collected data were fed to a database made through IBM SPSS statistics for Windows, version 24 to obtain statistical analyzes. After securing validity, reliability analysis was carried out and Alpha Cronbach (0.732) was considered reliable. The average score for each item on the scale was calculated, and an overall degree of physicians' confidence in laboratory services was calculated.

RESULTS: Respondents' mean age was 50.62 years and the mean experience years was 20. Most of the respondents were male internists nearly half of them held a doctorate or the Arab/Iraqi board for medical specializations' degrees. The average general-confidence of participants was 58.5%. Nearly half of the internists were satisfied with the laboratory services provided by government hospitals in Basra Governorate. However, there are some services that need attention. For the private sector, mostly (84.9%) of participants preferred private sector laboratories. **Conclusion:** All the doctors who were included in the study were convinced with services provided by the private sector laboratories, and relationships between internal medicine specialists and laboratory staff were good, which may have a positive impact on the provision of services.

KEYWORDS: laboratories services, internists, Basra

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INTRODUCTION

Laboratories are an essential component of health care services, where clinical tests and examinations are used to assess the patient's health.[1] The results of laboratory analyzes contribute significantly to making diagnostic decisions and managing patients' conditions. Therefore, the results must be reliable to ensure the patient's treatment line.

[2] Internists in particular are main clients of laboratories, and their level of confidence is a key measure of the quality of the analyzes. Assessing their confidence about laboratory services is a vital part of the quality assurance program. [3] This assessment is done by using standardized survey tools, where the results of surveying help in knowing the extent to which doctors do trust the laboratory services provided to

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patients and help to reduce the weaknesses of laboratories' performance and develop plans to improve the quality of services and the formation of professional care with high efficiency.[1]

Clinical laboratories are an integral part of a health organization's team that produces information vital for patient care. They form a daily need for internists. Therefore, their performance must be reliable to avoid unnecessary challenges to internists. [2]

Doctors' confidence and satisfaction in medical laboratory services is one of the basics of the comprehensive quality system confirmed by international quality standards.[1] Since medical laboratories are the core of any health care system, it is needed to conduct studies to examine aspect of the quality of laboratory services from one angle and an indicator of trust and mistrust from another angle.[4]

Physicians' satisfaction is measured to identify and solve problems. It is an important and useful tool to address problems in laboratories and health organizations in general. In the ongoing quest to continuously upgrade laboratory performance, it is essential to provide strong evidence of how this can improve clinical outcomes.[2] The method for evaluating performance depends on the internist's context. This assessment, in addition to epidemiological surveys, may include clinical outcome studies in the diagnostic program. It is a must to recognize that there are specific differences in the way the tests are used. These assessments have become an integral part of laboratory medicine to ensure the provision of test results and enhance the quality of patient care and safety. Laboratory medicine is a core activity of national and international agencies, like the International Federation of Clinical Chemistry and Laboratory Medicine.[1]

The well-being of patients is the primary focus of all actions performed in the field of health care and since these activities are limited to physicians, this means that they are clearly responsible for the consequences of these activities.[2] That is to say, the interaction between doctors and clinical laboratories is an effective step to ensure health care for patients through cooperation. This interaction is important to improve the gaps in the accuracy and reliability of test results and focus on managing the patient's health conditions.[2] In addition, the largest number of problems will be jointly resolved to ensure safety. Although the confidence of doctors is a good indicator of the performance of laboratory services, this assessment is not confirmed around the world, despite its contribution to improving quality, because many laboratories in the world have improved the performance of their services based on the observations by customers, where these

assessments are linked to the current state of performance with real expectations of customers. In European countries, health care is at the heart of the health sector. In 2010, clinical laboratories have begun making decisions and obtained quality performance ratings for several years. This does not mean documenting doctors' views on the health services.[5] It is extremely important to explore the relationship of trust between doctors and laboratory staff and the factors that affect this relationship; and try to identify each of the possible influencing factors to better improve confidence.[6]

In the previous studies, the overall degree of physicians' satisfaction with laboratory services was very high, but there were some services that needed attention. Therefore, hospital and laboratory administrations must work hard to provide customer-focused services in line with quality standards in medical laboratories. [3] So, this study explores the extent of confidence in doctors' views on laboratory services, whether in the private or public sector.

METHOD:

A cross sectional study was conducted among randomly selected 53 respondent internists from governmental and private health sector in Basra Governorate from 1st of April to 30th of May 2022. This study included doctors specialized in internal medicine in private and public hospitals and clinics. A structured, self-administered questionnaire was used, which consisted of 2-5 point Likert scale questions with 22 survey principles and two main sections: personal information and data on services provided by laboratories. All participants were informed of the goal of the study and gave consent. The questionnaire was validated by a group of experts and modified in the light of their recommendations. The questionnaire was tested on 10 doctors, and the experimental sample was included in the final analyzes. Reliability testing was carried out and Alpha Cronbach was considered reliable (0.732).

The collected data were fed to a database made through IBM SPSS statistics for Windows, version 24 to obtain statistical analyzes. The average score for each item on the scale was calculated, and an overall degree of physicians' confidence in laboratory services was calculated.

RESULTS

Table (1) shows that the respondents' mean age was 50.62 years and the mean experience years was 20. Most of the respondents were male internists nearly half of them held doctorate degree or the Arab/Iraqi board for medical specializations' degree.

Table 1. Sociodemographic characteristics of the study sample

Characteristic	Mean±SD	Median (Min.-Max.)
Age (Year)	50.62±11.77	48 (27-81)
Years of experience	20.00±10.24	19 (4-42)

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	Frequency	Percent
Gender:		
Male	50	94.3
Female	3	5.7
Graduation:		
Bachelor	13	24.5
Diploma or Master	16	30.2
Doctorate or Board	24	45.3
Total	53	100.0

Table (2), The respondents' answers to questions relevant to their knowledge, attitudes, satisfaction, and preferences towards the relationship with the laboratory work, they deal with. It is clear that nearly half of the respondent doctors usually recommend a laboratory with good quality. By good quality, 47.2% of the doctors meant that the laboratory uses high technology equipment. Only a quarter of the respondents stated that they use the Internet to receive the results of

laboratory analysis. One of the criteria that makes doctors prefer a laboratory was seeing the normal values against the values of the parameters measured. The other preference criteria were that the doctors do, mostly (84.9%), prefer private sector laboratories. The median of percentage of tests sent by respondents in one day out of their daily total patients was estimated to 50%.

Table 2. Respondents' knowledge, attitudes, and preferences toward the laboratory services

Question	Frequency	Percent
What are the standards of the laboratory you recommend for your patients?		
I usually recommend a laboratory with good quality	26	49.1
I usually recommend a laboratory with complete test menu	12	22.6
I usually recommend a laboratory with affordable price to patient	2	3.8
I usually do not recommend a laboratory, I leave it to the patients choice	13	24.5
How can you judge that a laboratory is working with good quality?		
The laboratory uses high technology equipment	25	47.2
The laboratory workers who work in the laboratory are highly qualified	23	43.4
The patient report looks professional	3	5.7
The laboratory is communicating with us before releasing the reports	2	3.8
Do you work via the system of receiving the results of the analysis via the Internet?		
Yes	13	24.5
No	40	75.5
Do you need to see the normal values in the laboratory result report?		
Yes, always	31	58.5
Yes, sometimes	19	35.8
No	3	5.7
Which do you prefer in terms of results, laboratories of the government sector or the private sector?		
Private sector	45	84.9
Government sector	8	15.1
	Mean±SD	Median (Min.-Max.)
What is the percentage of tests sent by you in one day out of your daily total patients?	57.75±21.9	50 (10-100)
Total	53	100.0

The respondents' practices are shown in Table (3). It is clear that the median of the respondents' score of their satisfaction about their experience with government medical laboratory services in Basra was 7 on a scale from 1 (lowest) to 10 (highest). More than three quarters of the respondents mentioned that they advise their patients to utilize the service of a specific laboratory. Almost all of the participants stated

that they frequently communicate with the laboratory regarding results and complaints. It can be noticed that the respondents usually communicate with laboratory manager, technical officer, or head. Moreover, more than a half of them mentioned that they cooperated with a famous laboratory in Basra. However, more than half of them answered that they sometimes were not satisfied with the laboratory results.

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About 96.2% of them answered that they had refused a laboratory test result(s); and 94.1% of those acknowledged that the complaint was resolved. More than half of the doctors stated they were aware about the presence of internists who receive financial incentives from laboratories for sending their patients to these laboratories; when a quarter of those acknowledged that they dealt through this mechanism. About 43.4% of the internists in the study mentioned that the laboratory they deal with can, always, perform all the tests

that they consider as necessary. More than three quarters of the respondents mentioned that the results report, provided by the laboratory, always include all the information they need to know. About 62.3% of the respondent internists mentioned that their relationship with and laboratory managements in general was good. In general, nearly two thirds of the respondents answered that they were satisfied- very satisfied with the laboratory services in Basra.

Table 3. Respondents' satisfaction of the Medical labs they worked with

Question	Mean±SD	Median (Min.-Max.)
On a scale from 1 to 10, rate your experience with government medical laboratory services in Basra (1 lowest - 10 highest)?	6.06±2.20	7 (1-10)
	Frequency	Percent
Do you usually advise patients to go to a specific laboratory because you are satisfied with its performance?		
Yes, always	9	17.0
Yes, as necessary	31	58.5
No	13	24.5
Have you cooperated with a famous laboratory in Basra because you are satisfied with their performance?		
Yes, always	2	3.8
Yes, sometimes	30	56.6
No	21	39.6
Have you ever been not satisfied with laboratory results?		
Yes, always	19	35.8
Yes, sometimes	29	54.7
No	5	9.4
Do you communicate with the laboratory regarding non-satisfying results?		
Yes, always	33	62.3
Yes, sometimes	18	34.0
No	2	3.8
Who do you communicate with most often in the laboratory?		
Laboratory manager	28	52.8
Technical officer	18	34.0
Laboratory head	7	13.2
Have you ever refused any laboratory investigation?		
Yes, frequently	38	71.7
Yes, sometimes	13	24.5
No	2	3.8
If you answered yes to the previous question, was the complaint resolved satisfactorily?		
Yes	48	94.1
No	3	5.9
Did you know that there are doctors who receive financial incentives from laboratories?		
Yes	28	52.8
No	24	45.3
No answer	1	1.9

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If your answer is yes to the previous question, did you deal via this mechanism?		
Yes	7	25.00
No	19	67.86
No answer	2	7.14
Can the laboratory you deal with, always, perform satisfactorily regarding all the tests that you consider necessary?		
Yes, always	23	43.4
Yes, sometimes	15	28.3
No	14	26.4
No answer	1	1.9
Does the results report include all the information you need to know satisfactorily?		
Yes, always	41	77.4
Yes, sometimes	12	22.6
Generally, how is the relationship between you and the laboratory management?		
Good	33	62.3
Fair	16	30.2
Weak	4	7.5
Are you generally satisfied with the laboratory services in Basra?		
Very dissatisfied	4	7.5
Dissatisfied	1	1.9
Neutral	13	24.5
Satisfied	31	58.5
Very satisfied	3	5.7
No answer	1	1.9
Total	53	100.0

DISCUSSION

Medical laboratory tests form an important tool for internists and they must be confident in order to avoid unnecessary weaknesses. Many studies have been conducted to assess the degree of confidence or satisfaction of physicians with the services provided by the laboratory in general. This study aimed to determine the extent to which internists in Basra/Iraq trust the local laboratory services. It included 53 internists. The average general-confidence of them was 58.5%. This satisfaction rate is nearly similar to reports from Pusan National University Hospital (58.1%), and Saudi Arabia (53.3%)[7][8]. While it is lower than the studies conducted in Karachi and Sudan,[1][3] where the average general confidence was 82%. This may be due to the difference in the health system in general, the qualifications of laboratory staff, or the difference in the expectations of doctors, and also may be due to difference in participants and sample size. In our study, all the participants were physicians however in the other studies, participants were variable health care providers (physicians, nurses, health workers).

The factor that achieved the highest satisfaction rate was the communication of the internists with the laboratory staff. The interaction between physicians and laboratory staff is mandatory for effective and efficient patient health care. Regarding mutual communication because non-competent

laboratory investigation results, the level of satisfaction reached 62.3%, which is higher than the other studies.[9] It may be due to the laboratory staff's acceptance of criticism raised by doctors and work to solve them smoothly.

Many previous studies showed that physicians' request behavior and treatment interventions are influenced by the communication and interactions between laboratory and clinical health workers. Lack of communication is a barrier to effective healthcare service. Improved communication between laboratory and clinical health workers could have a positive attitude to request and use laboratory diagnostic services and, eventually, quality of patient care [9].

The second issue that achieved the highest satisfaction rate is the presence of the reference normal value of analyzes in the laboratory result sheet, where the satisfaction rate reached 58.5%. These results differ from the previous two studies [1] [3], where this factor obtained lower satisfaction percentages. This could be due to differences in the medical field targeted in these studies.

About the preferences of internists in terms of services, the private sector laboratories have obtained a higher preference rate than the public sector ones (84.9%), which differs from the others studies because those studies either included the only sector only or did not measure the difference [10].

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Regarding recommendation of internists to their patients when consulting them, it was mentioned that most of them advise their patients to a specific laboratory. The reason can be the doctor's knowledge of the extent of the capabilities of the laboratory staff they deal with, because of the modern equipment and high quality of that laboratory, or it might be relevant to the presence of some doctors who receive financial incentives for referring their patients to specific laboratories and/or laboratory services.

The respondents mentioned that about 50% of their daily patients are referred by them to have laboratory testing. About the interaction of internists with receiving results via the Internet, it showed a rate of 24.5%, which is lower than previous studies. Also, the average satisfaction of internists with their experience with laboratory services in Basra was 7 out of 10. The reason is probably due to the, at the time of the study, development of devices with good quality in both government and private sectors, although, the private were the better satisfying.

In general, the percentage of trust or satisfaction of internists with laboratory services was good.

CONCLUSIONS

This study showed that nearly half of the internists were satisfied with the laboratory services provided by government hospitals and clinics in Basra Governorate. However, there are some services that need attention.

As for the private sector, all the doctors who were included in the study were convinced of the services these laboratories provide. It also revealed that the relationship between internal medicine specialist doctors and laboratory staff was good, which may have a positive impact on the provision of services.

RECOMMENDATIONS

1. Working with the online result delivery system; this is faster and safer for both the patient and the doctor
2. Working on the use of adding the reference normal values to the laboratory analysis results forms, which saves the doctor and patient time and efforts.
3. Establishing certain penalties to limit the process of mutual financial incentives, whenever and wherever found, between the two parties.

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