Research Article **ISSN: 2349 – 4492**

Asian Journal of Research in Biological and Pharmaceutical Sciences

Journal home page: www.ajrbps.com

PHYSICIANS' SATISFACTION WITH LABORATORY SERVICES AT KING FAISAL HOSPITAL IN MAKKAH, SAUDI ARABIA

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ABSTRACT

Assessment of medical laboratories services plays a key role in programs for quality improvement to ensure that desired outcomes are produced. Thus, this study investigated the satisfaction level with laboratory's services among physician, in Assessment of medical laboratories services plays a key role in programs for quality improvement to ensure that desired outcomes are produced. King Faisal Hospital, to identify strength and possible limitations, which might inform the development, plans for more efficient services. Paper based survey used to measure; reports quality, communication, management and turnaround time. The majorities of participants were male and with one to five years of experience. The overall rating of satisfaction ranged between 2.6-3.8 out of 5. The highest satisfaction level was for the attitude of laboratory personnel followed by the accuracy and reliability of lab results. However, this study presented some negative observations of laboratory services, mainly related to missing of laboratory test results. Using electronic record system from ordering the test to reporting results to the clinician is required for accomplish this problem.

KEYWORDS

Physician's satisfaction, Laboratory services, TAT, Laboratory management and Results accuracy.

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INTRODUCTON

Assessment of the medical laboratories services plays a key role in programs for quality improvement to ensure that desired outcomes are produced. Thus, measuring of laboratory's primary customers, who are the physician, satisfaction, considers an important and useful quality improvement tool for clinical laboratories, and health care organizations[1].

In general, patient'sdiagnosis, treatment, management and medical decisions, which

considered by physicians, are depending on medical laboratory reports. Therefore, laboratories consider an essential component at any healthcare services and their results must be of the highest quality and reliability to insure the best possible outcome for the patient health[2,3].

Nowadays, accreditation by different organizations such as the College of American Pathologists (CAP) and The Joint Commission on Accreditation for Healthcare Organizations is require assessing customer satisfaction with laboratory services for their quality assurance programs[1]. A number of previous studies have been provided a standardized survey tool for assessing customer satisfaction with different aspects within the clinical laboratory services. Such of these aspects including, quality/reliability of test results, staff courtesy, accessibility of pathologist, accessibility of laboratory manager, phlebotomy services, test menu adequacy, accessibility of laboratory staff, courier services, routine test turnaround time (TAT), laboratory management responsiveness, inpatient stat test TAT, critical value notification, clinical report format, outpatient stat test TAT, and esoteric TAT[1,4]. Moreover, turnaround time (TAT) (sample registration to result reporting) is one of the most crucial and noticeable signs of laboratory service[5, 6]. Laboratory directors may disagree with such a priority, arguing that unless analytical quality can be achieved, none of the other characteristics matter. However, many clinicians to judge the performance and quality of the laboratory use TAT. Delays in reporting laboratory results can lead to delay in the management, diagnosis, treatment and release of patients[5].

Inspection of the literature revealed a variety of studies investigated the satisfaction of the primary healthcare providers (physicians) with laboratory services to identify possible limitations about particular aspects of the service for future improvement[7,8].

Adulkader and Triana assessed the level of physicians' satisfaction with laboratory services of public and private hospitals in Aden and found the highest satisfaction score was seen for phlebotomy services, while the lowest was for test turnaround time (TAT)[9]. Within the same study, they reported a higher satisfaction level from physicians in private institutes[9]. In Ethiopia, 28 hospitals and six regional laboratories were evaluated the level of satisfaction and reported number of limitation mainly related to lack of properly designed laboratory rooms, lack of water and electricity access, shortage of equipment and supplies, and absence of effective maintenance and spare parts. Also poor supervision was found, whereas the lowest rate of satisfaction was reported for critical value notification[8]. Another studies showed that the critical value notification, quality of laboratory results and staff courtesy was reported as the highest level of satisfaction, while the least satisfaction was seen in the TAT[10,11]. In the United State, physicians at the Emergency Department (ED) reported unsatisfied laboratory services with TAT, which caused a delay at ED patient's treatment and release[12]. Similarly, Hawkins, (2007) found that laboratory testing performed with long TAT affected patient release[5]. In contrast, a study performed in 653 institutions, participating in the College of American Pathologists Q-Probes program, for inpatients early morning routine clinical laboratory tests and found little evidence that longer routine test TAT affects patient length of stay[13]. However, improving laboratory TATs was and still difficult for many laboratories[6, 14].

Mostly, staff shortages found to be associated with long TAT as a result of delay in the test ordering and collection[14]. In our previous study, which performed in Maternity and children hospital at Makkah (2014) showed that physicians were most satisfied with courtesy of laboratory personnel, accuracy of laboratory results and staff support to research projects. On the other hand, the lowest satisfaction rete was reported with the test turnaround times (TAT) for state, and routine tests for inpatient and outpatient [4].

The aim of this study was to evaluate physicians' satisfaction with hospital clinical laboratories' services at King Faisal hospital at Makkah.

Moreover, four different aspects were measured including; quality of reports, communication, management, and TAT.

METHODS

Physician satisfaction paper-based survey was prepared based on the CAP survey and other published similar studies with 5-Likert Scale, (1= Strongly Disagree, 2= Disagree, 3= Unsure, 4= Agree, and 5= Strongly Agree). The questionnaire consisted of 24 statements covering a comprehensive range of clinical laboratory services evaluating different aspects of health care services including; the accuracy of report, the effectiveness of laboratory team's communications, the efficiency of laboratory management, and the TAT. The questionnaire was piloted on three physicians and academics of medical schools, and modifications were applied. All collected data were processed into an electronic database for statistical analysis using with SPSS version 23.

Study population was physicians of King Faisal Hospital in Makkah. Study proposal was approved by the Research Ethical Committee of the Health affaires and Committee of the King Faisal Hospital in Makkah and conducted between the period of May and August 2015. The survey was disseminated to all hospital's departments (Medicine, Surgery, Dermatology, Emergency ER, Intensive care unit ICU, and Dental) and physicians were invited to participate. Physician were approached individually and asked to complete the survey, which will lead to better laboratory services and quality. Physicians in training (interns students) were specifically excluded from this study.

RESULTS AND DISCUSSION

A total of 150 surveys were distributed to the physicians at the hospital; 76 surveys were returned giving a response rate of 51%. The majorities of respondents were male 70% (N=53), non-Saudi 53% (N= 41), between 25 to 35 years old 51% (N=39) and with one to five years of experience 36% (N=27). Most respondents were residents and specialists, 41% (N=31) and 32% (N=25) respectively. Only 20% (N=15) were consultants (Figure No.1). Moreover, respondents represented six main specialties (Medicine 25% (N=19), Surgery 25% (N=19), ER 21% (N=16), ICU 15% (N=11), Dental 111% (N=9) and Dermatology 3% (N=2) (Figure No.2). The statistical reliability of the survey item was good as measured with Cronbach's Alpha (0.75)[15].

Respondents to the physician satisfaction survey indicated a relative dissatisfaction with total mean score of 73/120. The overall mean rating of satisfaction by physicians in the King Faisal Hospital in Makkah ranged between 2.6-3.8 out of 5. According to the study result, a consensus was reported with 74.4 % satisfaction of the service attitude of the laboratory personnel (mean=3.7). Respondents also reported satisfaction with the accuracy and reliability of lab results (mean= 3.6), the convenient of laboratories' clinical report's format (mean=3.5), and then the Laboratory staff positive attitude toward research projects (mean= 3.4). In addition, the mean of turnaround time (TAT) for routine tests for inpatient and outpatients showed relative satisfaction scores with (mean=3.2) (Table No.1).

On the other hand, respondents reported their dissatisfaction with the adequacy of laboratory notification of the changes in services (49%), laboratory manuals and protocols for investigation time (42%), and then the laboratories usual promptly answered telephones calls (47%), with each means score of 2.6.

In hospital laboratory service, physicians are the primary customers' focus of satisfaction survey in many countries[16]. This is also important to maintain international accreditations. The satisfaction of physicians was measured in this study to identify problems and possible limitations and solve them for future improvement.Based on previous studies and the CAP survey the questionnaire was developed and modified to fit this study. The questionnaire was involved several statements covering different sections and details of laboratory

services, which were considered important to physicians as primary customers for the laboratory at King Faisal Hospital in Makkah.

All physicians at King Faisal Hospital in Makkah were invited to complete the survey. The response rate was 51% representing 50% of physicians in the Hospital. However the researcher sent two follow up massages by the hospital system, challenge of completing survey and the low repose rate was reported in many studies.

The study results revealed the relative dissatisfaction of physician of the clinical laboratories' services at King Faisal hospital at Makkah with mean score of 73/120. The score was relatively higher than the study conducted in same city within a government hospital laboratory at Makkah city with overall mean score of 64/120[4]. Yet there is no significant difference between the two studies.

The survey statements that scored the highest satisfactions were mostly focused on the accuracy and convenience of laboratory results, and then the attitude of laboratory personnel. This finding concurs with other studies[10, 11]. Also the findings reported respondents' general satisfaction with the accessibility of the lab management and positive attitude toward the research project. Thus, this finding indicates a very well, clear and effective communication between physicians and laboratory administrators and staff. Despite the negative satisfactions which reported in a number of different studies with TATs[1, 12].

In this study physician reported their satisfaction with TAT for both state and routine tests for inpatient and outpatient.

On the other hand, the study findings reported dissatisfactions with many items that focused on the inadequacy of written communications and guidelines from the clinical laboratory administration. Such as, the dissatisfaction with the adequacy of laboratory notification of the changes in services and laboratory manuals and protocols for investigation time. This concurred with a recent study, in 2014, expressed physician's dissatisfaction toward the laboratories instructions, guides and management[4].

However, the low satisfaction rate was reported with the missing of laboratory test results. Thus, a significant time can be spent for searching and managing lost test results leading to delays and errors of the physician's medical decision. Some possible solutions that may decrease the number of missing laboratory test results are establish a clear and a formal process that clarifies responsible agents and associated duration to complete the task[16], also using an electronic record system from ordering the test to reporting results to the clinician.

This is the first study carried out in King Faisal Hospital at Makkah based on Physicians' satisfaction for the services provided by the hospital's laboratories.

However, the study has some limitations; firstly the study considered one laboratory services customer "Physicians": other studies need to investigate the perception of other laboratory customers including, nurse and patients. Secondly, poor respondent's rate of hospital physicians during the study period was also reported.

Table No.1: Rate of Physicians' Satisfaction by Different Measuring Item of Laboratory Services at King Faisal Hospital at Makkah, 2015

S.No	Items	Strongly disagree	Agree	Unsure	Agree	Strongly agree	Mean	S. D.
1	Laboratory results are accurate	2.6	13.2	15.8	57.9	10.5	3.6	.939
2	Laboratory services are efficient	11.8	17.1	18.4	48.7	3.9	3.1	1.13
3	Laboratory notification of the changes in services is adequate	21.1	27.6	25.0	22.4	3.9	2.6	1.16
4	Laboratory manuals and protocols for investigation time are adequate	18.4	23.7	35.5	19.7	2.6	2.6	1.07
5	Reference value booklet is fit for use	11.8	15.8	32.9	32.9	6.6	3.0	1.11
6	Laboratories' management is accessible	13.2	14.5	25.0	38.2	9.2	3.1	1.18
7	Laboratory staff are available	13.2	10.5	26.3	35.5	14.5	3.2	1.22
8	Laboratories usual promptly answered telephones calls	17.1	30.3	26.3	19.7	6.6	2.6	1.16
9	Laboratories answered efficiently most of our telephones' enquires	15.8	18.4	28.9	30.3	6.6	2.9	1.18
10	Laboratory point of care testing support is adequate	9.2	13.2	36.8	35.5	5.3	3.1	1.02
11	Turnaround time (TAT) is adequate for stat tests	8.0	20.0	33.3	33.3	5.3	3.0	1.02
12	Turnaround time (TAT) is adequate for routine tests for in-patients	3.9	21.1	35.5	31.6	7.9	3.1	0.98
13	Turnaround time (TAT) is adequate for routine tests for outpatients	3.9	15.8	38.2	34.2	7.9	3.3	0.95
14	Abnormal results notification is adequate	17.1	22.4	27.6	25.0	7.9	2.8	1.21
15	Service attitude of the laboratory personnel is good	2.6	6.6	18.4	60.5	11.8	3.7	0.85
16	Laboratory has a positive attitude toward our research projects	2.6	5.3	51.3	30.3	10.5	3.4	0.85

17	The format of laboratories' clinical report are convenient	5.3	7.9	27.6	50.0	9.2	3.5	0.95
18	We are satisfied with the laboratory information system when requesting laboratory tests	11.8	21.1	14.5	43.4	9.2	3.1	1.21
19	We are satisfied with the laboratory information system when reviewing laboratory results in electrical patient records	10.7	12.0	24.0	44.0	9.3	3.2	1.13
20	We do not need additional instructions on the preparation of patients for laboratory tests	17.3	34.7	16.0	22.7	9.3	2.7	1.25
21	We do not need additional instructions on the collection and handling of samples	18.7	26.7	26.7	21.3	6.7	2.7	1.18
22	We do not need additional instructions as consultations by laboratory physicians	17.3	30.7	17.3	25.3	9.3	2.8	1.25
23	We rarely need to contact the laboratory because of missing test results	28.0	22.7	9.3	32.0	8.0	2.7	1.37
24	We rarely need to contact the laboratory because of erroneous test results	23.0	18.9	21.6	31.1	5.4	2.7	1.25
Total mean							73.4/120	17.44

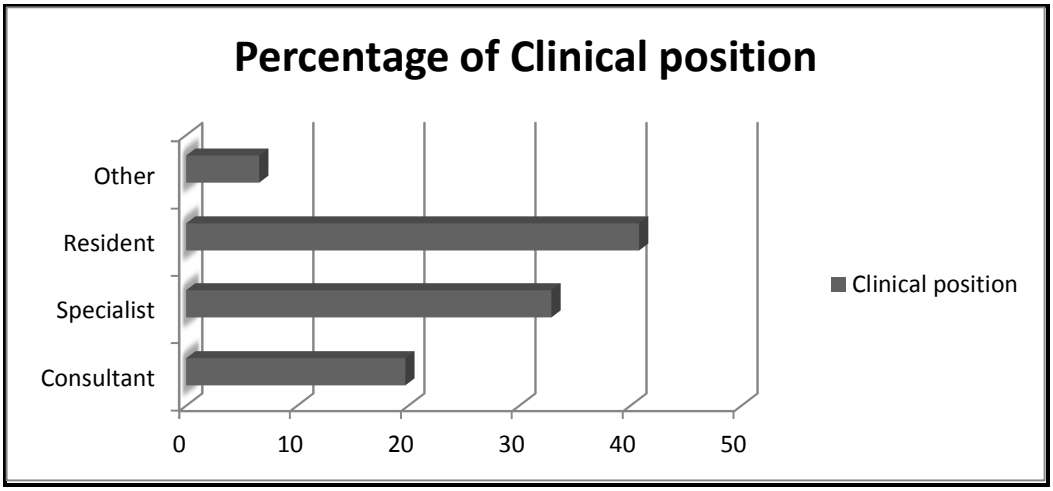

Figure No.1: Showed the clinical position of the participants at king faisal hospital at makkah, 2015

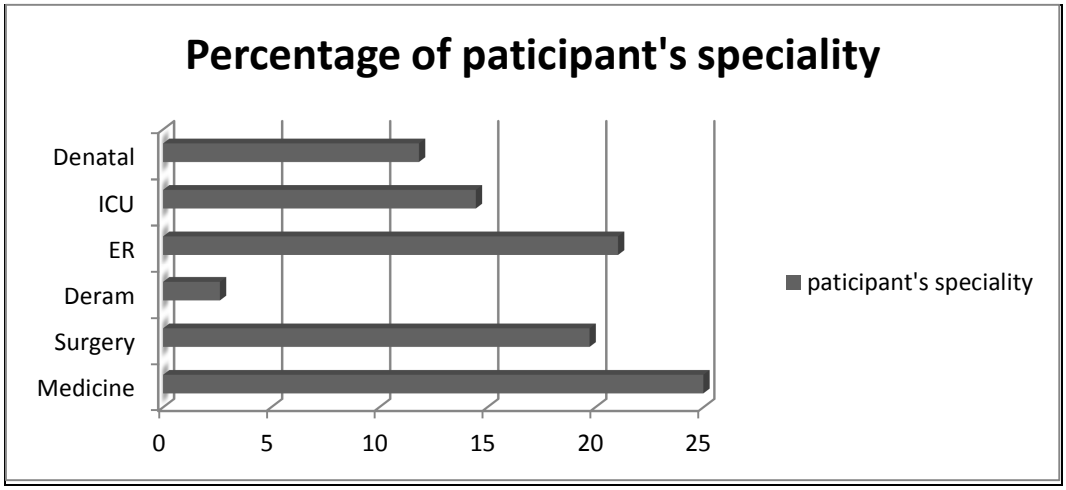

Figure No.2: Showed the specialty of the participants at King Faisal hospital at makkah, 2015

CONCLUSION

The overall degree of physician' satisfaction with the laboratory services was quite high. But there were some services such as the process of receiving patient's results, which need attention. Therefore, the hospital administrations and the laboratory departments should work harder and closely to solve the identified problem. In addition, using an electronic record system from ordering the test to reporting results to the clinician might be one of the recommended solutions.

ACKNOWLEDGEMENT

We acknowledge Dr. Raef Qutub and all the participants for their willingness to participate in this study. Our thanks also extend to the Health affairs for giving the ethical clearance.

CONFLICT OF INTEREST

We declare that we have no conflict of interest.

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Please cite this article in press as: Rana G Zaini *et al*. Physicians' satisfaction with laboratory services at king faisal hospital in makkah, Saudi Arabia, *Asian Journal of Research in Biological and Pharmaceutical Sciences*, 3(3), 2015, 118- 125.