

## Clinical Biochemistry Laboratory Evaluation Questionnaire: The Case of Şırnak Province

Veysel TAHİROĞLU<sup>1\*</sup>, Erkam COŞKUN<sup>2</sup>

<sup>1</sup>Şırnak University, Faculty of Health Sciences, Department of Nursing, Şırnak

<sup>2</sup>Şırnak State Hospital, Clinic of Medical Biochemistry, Şırnak

\*Sorumlu yazar (Corresponding author): [veysel.tahiroglu@sirnak.edu.tr](mailto:veysel.tahiroglu@sirnak.edu.tr)

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### Abstract

A questionnaire was prepared in order to measure and evaluate the satisfaction of the specialists and general practitioners working in Şırnak State Hospital about the clinical biochemistry laboratory. 86 people participated in the survey and 37 of the participants were general practitioners and 49 specialists. 10 questions were asked in order to evaluate the processes such as whether the results were reached in sufficient time, the accuracy of the results and the reporting of panic values. Of the physicians participating in this study, 57% were specialists and 43% were general practitioners. The mean age and standard error were calculated as  $30.81 \pm 4.35$ . Of the physicians participating in the study, 61.6% were women and 38.4% were men. In the questionnaire that physicians participated in, the findings of the study and results of the tests, the status of the tests, the safety of the results and their relations with the clinical biochemistry laboratory were obtained. In the clinical biochemistry laboratory evaluation questionnaire, it was seen that the communication between both physician groups and the laboratory was positive. Although the reliability of our laboratory is at a good point in terms of the accuracy of the results, it is thought that errors should be minimized and training should be given to both physician groups about the reliability of the working principle of the laboratory.

**Keywords:** Questionnaire, biochemistry, laboratory, specialist, practitioner

## 1. Introduction

Medical laboratories are units where analyzes are made on the sample taken from the individual in order to provide information on the diagnosis, prevention and treatment of the disease or to evaluate the health status of the individual, and the results obtained are interpreted when necessary and consultancy services are provided. Laboratory staff consists of personnel who accept/register the patient, take the sample, use the devices, run the tests, and evaluate the results. Laboratory management should be organized in a systematic and planned manner, along with increasing training and technical skills in order to carry out effective and efficient activities (Demir et al., 2011). The biggest resources of hospitals are undoubtedly the employees who make up the workforce. Behaviors, attitudes, in-house interactions and working practices of the employees all determine the performance of the institution. Corporate achievements are related to personnel management and, therefore, satisfaction. Surveys have been prepared and published in many hospitals to measure patient and employee satisfaction. It is possible to collect many different types of data with the survey method (Tükel et al., 2004; Özcan et al., 2008; Önsüz et al., 2008). Quality in laboratory services; shortening the waiting time for the tests, giving the urgent test results in a short time and the reliability of the results. In addition, the application of the scientific truths of the day and the use of today's technology will increase the satisfaction of physicians and patients, thus increasing the quality (Gonzalez and Garrett, 1996). Although satisfaction surveys are conducted for hospital staff and patients, we have limited data measuring physicians' satisfaction with laboratories. For this reason, in this

study, we prepared a questionnaire in order to measure the interaction between clinicians and general practitioners in the clinical biochemistry laboratory and to evaluate the laboratory performance from the point of view of physicians. The questionnaire was filled by the physicians working in the hospital. For this reason, we think that the results of the survey can be a guide for other hospitals and laboratories of training and research hospitals.

## 2. Materials and Methods

Ethical permissions required before this cross-sectional, descriptive study were obtained with the approval of the ethics committee dated 21.09.2022 and numbered 2022/109. A sociodemographic data form including age, gender and medical degree and a questionnaire consisting of 10 multiple-choice questions compiled by the authors related to the clinical biochemistry laboratory were applied to the physicians. A three-point Likert type question pattern consisting of "I agree", "I do not agree" and "I am undecided" was used. For the reliability of the answers given in the questionnaire, physicians were asked not to write their names. SPSS statistical software (USA, New York, IBM SPSS Version 21.0) was used to evaluate the data. Frequency distributions, numbers and percentages were given in descriptive statistics.

## 3. Results

Of the physicians participating in this study, 57% were specialists and 43% were general practitioners. The mean age and standard error were calculated as  $30.81 \pm 4.35$ . Of the physicians participating in the study, 61.6% were women and 34.4% were men. (Table 1). Some important findings of the research are as follows: 85.7% of the experts and 81.1% of the practitioners stated that they had no difficulty in accessing the

clinical biochemistry laboratory team, 83.7% of the experts and 89.2% of the practitioners stated that the laboratory staff was respectful and polite to us. 93.9% of the experts, 78.4% of the practitioners, the questions about the clinical biochemistry laboratory received adequate answers, 89.8% of the experts, 81.1% of the practitioners, the

information in the laboratory result report was sufficient, 44.9% of the experts, 40.5% of the practitioners, the quality of the results While they were undecided about their reliability or reliability, all of the experts and practitioners stated that the feedback and explanation information of panic values was sufficient (Table 2).

**Table 1.** Demographic characteristics of doctors

Medical Degree	n	%
Specialist Physician	49	57
General Practitioner	37	43
Gender	n	%
Female	53	61.6
Male	33	38.4

**Table 2.** Percentage distribution of the answers given by the specialists and general practitioners to the questions in the questionnaire

SENTENCES	Specialist Physician			General Practitioner		
	1. I agree	2. I disagree	3. I'm undecided	1. I agree	2. I disagree	3. I'm undecided
1. I am having difficulty accessing the clinical biochemistry lab team	4 (8.2)	42 (85.7)	3 (6.1)	1 (2.7)	30 (81.1)	6 (16.2)
2. The test results of the clinical biochemistry laboratory give timely	30 (61.2)	7 (14.3)	12 (24.5)	21 (56.8)	3 (8.1)	13 (35.1)
3. Hospital management and clinical biochemistry laboratory management work in harmony	26 (53.1)	6 (12.2)	17 (34.7)	16 (43.2)	5 (13.5)	16 (43.3)
4. Laboratory staff are respectful and polite to us	41 (83.7)	1 (2)	7 (14.3)	33 (89.2)	0 (0)	4 (10.8)
5. Routine examinations should always be requested outside of working hours	18 (36.7)	24 (49)	7 (14.3)	11 (29.7)	17 (45.9)	9 (24.3)
6. Most external examinations (laboratory test) should be able to be run in the hospital laboratory	12 (24.5)	35 (71.4)	2 (4.1)	12 (32.4)	18 (48.6)	7 (18.9)
7. Adequate answers are given to our questions about the clinical biochemistry laboratory	46 (93.9)	3 (6.1)	0 (0)	29 (78.4)	8 (21.6)	0 (0)
8. The information in the laboratory result report is sufficient	44 (89.8)	5 (10.2)	0 (0)	30 (81.1)	7 (18.9)	0 (0)
9. I have no doubts about the quality/reliability of the results	19 (38.8)	8 (16.3)	22 (44.9)	20 (54.1)	2 (5.4)	15 (40.5)
10. The feedback and explanation information of the panic values is sufficient	49 (100)	0 (0)	0 (0)	37 (100)	0 (0)	0 (0)

#### 4. Discussion

Having a positive interaction in the health sector gives those who want to benefit from health services a better chance to benefit from diagnosis and treatment services, and provides health services to health sector workers in a short and effective way. Different methods can be developed for working people to be more successful and productive in the sector they serve. In the health sector, surveys are conducted to measure patient and employee satisfaction, and new methods are developed according to their results (Özer and Çakıl, 2007; Demir et al., 2010). Providing quality service in the clinical biochemistry laboratory is important for the satisfaction of the clinician and laboratory staff. Therefore, the objectives and ways to make the best use of the available resources should be evaluated by the laboratory management. The vast majority of experts and practitioners stated that they had no difficulty in accessing the clinical biochemistry laboratory team. We think that the reason why very few of them stated that they had difficulty coincided with the time when the biochemist was performing the controls at the device. It is seen that the experts are more satisfied with the question about the test results of the clinical biochemistry laboratory than the general practitioners. The reason for this may be due to the intensity of the emergency service and a situation consisting of instant devices. In the evaluation of the hospital management and clinical biochemistry laboratory management, the majority of them stated that they were compatible. The harmony between the hospital management and the laboratory is important in terms of increasing laboratory performance. The communication between the laboratory and the clinics in terms of new tests requested by the clinics will be provided

by the hospital management. The rate of undecided people in this question is remarkable. In other words, it is seen that general practitioners are more undecided than specialist physicians. It is thought that this situation arises from the fact that specialist physicians are more intertwined with managers and that the parameters requested by the clinician are studied in the laboratory. Both groups of physicians, to whom the laboratory staff are respectful and courteous to us, report their satisfaction to the vast majority. While this situation creates positive aspects between the clinician and laboratory staff, it is also important in terms of the relationship between the patient and the clinician. It was determined that the majority of both physician groups did not need to ask the question of always asking for routine examinations outside of working hours, but according to the specialists, routine examinations should be requested according to general practitioners. The reason for this is thought to be the need for routine examinations by specialists caring for inpatient wards. When asked if most of the external examinations should be performed in the hospital laboratory, the majority of the experts and about half of the general practitioners stated that there is no need to work in the hospital laboratory. The reason for this is thought to be due to the fact that the majority of external laboratory tests are requested by specialists, and they do not always see these tests as necessary and they do not want to bring a burden to the hospital. The majority of both physician groups stated that they received sufficient information on the question of adequate answers to our questions about the clinical biochemistry laboratory. Considering this satisfaction, it is seen that the communication between the clinic and the laboratory management is

good, and that the biochemists know their fields well. When the question of the information in the laboratory result report is sufficient, the majority of both physician groups stated that it was sufficient. In this situation, it is seen that the clinical biochemistry laboratory uses the technological opportunities required by the age and the reports are more understandable and simple. It is noteworthy that the majority of both physician groups who participated in this question about the quality or reliability of the results were undecided. The reason for this may be that clinical biochemists are not adequately conveyed to physicians the procedures they perform in their laboratories. To the question about the adequacy of the panic values feedback and explanation information, all of the two physician groups who participated in the survey stated that their panic value information was sufficient. This satisfaction in the delivery of panic value results shows that the communication between the laboratory and the clinic is good. In addition, when laboratory workers call for panic-worthy results, it is seen that these results are conveyed quickly and adequately. As a result, in the clinical biochemistry laboratory evaluation questionnaire, it is seen that the communication between both physician groups and the laboratory is positive. However, we think that these question marks will be eliminated if clinical biochemists meet and inform about the safety of laboratory results. If this problem is solved, the processes such as sending samples again will be reduced, thus saving reagents and increasing the satisfaction of the physicians.

#### **Declaration of Author Contributions**

The authors declare that they have contributed equally to the article. All authors declare that they have seen/read

and approved the final version of the article ready for publication.

#### **Declaration of Conflicts of Interest**

All authors declare that there is no conflict of interest related to this article.

#### **Ethical Committee Approval**

Before the study Permissions were obtained from the local ethics committee. Şırnak University Ethics Committee, 2022/109-21.09.2022.

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