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Quality Assessment of Rendering of Clinical and Biochemical Laboratory Researches in Almaty City: Laboratorian Opinions

[1]Ramazan D. Toxanbayev, [2]Serik K. Karabalin, [2]Akmaral M. Maymakova,
[3]Radka M. Argirova and [4]Saule S. Buzdayeva
[1]Kazakhstan School of Public Health, Almaty, Dazakhstan
[2]Almaty State Institution for Continuing Medical Education, Almary, Kazahstan
[3]Tokuda Hospital, Sofia, Bulgaria
[4]Kazakhstan National Medical University, Almary, Kazakhstan

Abstract: Now, creation of a quality control system of clinical laboratory researches taking into account all its components and various methods of an assessment is topical issue of modern laboratory medicine. One of the most important quality components of work is the personnel: its degree of motivation in results of work, partnership in decision-making and their realization, character of relationship (in collective and with the management), etc. Studying of opinion of the specialists of clinical and laboratory service who are the main participants of this process, a status of the existing system of rendering laboratory services is determined by the purpose of our research. During the period from May to July, 2014 it was conducted the complex research of activity of laboratory diagnostic services of Almaty City on the basis of specially developed F-LAT Method adapted for Kazakhstan by the leading laboratory experts of health care. In total there were interrogated 217 employees of clinical and laboratory services (the regional diagnostic center, scientific center of anti-infectious preparations, Kazakh Research Institution of Oncology and Radiology, Scientific Center of Urology named after B.U. Dzharbusynov, research institution of cardiology and internal diseases, municipal clinical hospital No. 1, Municipal Clinical Hospital No. 7, Municipal Clinical Hospital No. 5, Children's Municipal Clinical Infectious Diseases Hospital, Policlinic No. 17, "*in vivo*" Private Laboratory, Children's Hospital No. 2). The obtained data of poll testify to prevalence of age group in a hospital till 30 years (77%) in policlinic there are persons >50 years (about 47%) in the medical center there are young people till 30 years (100%), employees, working in the diagnostic center have in equal ratios with age till 30 and 40-49 years (50%). A main type of vocational training at the post-degree level is primary specialization in two thirds of cases. Close interaction with clinicians is observed in all age groups of respondents. It is about 90% of experts of Clinical Diagnostic Laboratory (CDL) positively estimated activity of the management of the laboratory. Relevance of the pecuniary reward for rendering of high quality services was noted by experts of CDL both private (100%) and state (74%) of health care sector.

Key words: Quality of clinical and laboratory researches, quality standard of medical care, medical organization, laboratory medicine, qualified professional personnel

INTRODUCTION

Reforming to scale of technical re-equipment of laboratories, implementation of the quality standards and improvement of professional education of the laboratory specialists which are carried out within the "Salamatty Kazakhstan" state program of development of healthcare of the Republic of Kazakhstan for 2011-2015 is an actual task at the present stage of laboratory service.

However, the international standards (in particular-ISO 15189, 2008) which were accepted in Kazakhstan at present, don't allow to use this quality control system for all laboratory service.

Improvement of the quality control system of clinical laboratory researches taking into account all its components and various methods of an assessment is topical issue modern laboratory medicine (Nazarenko and Kishkun, 2002; Abirova, 2011; Zhdanov and Tusupov, 2011). The analysis of references revealed the necessity of certification of CDL experts according to the international standards; active formation of standard and legal base of laboratory service. The carried-out analysis of laboratory services in various countries revealed two directions of training of the main personnel of CDL: the doctor-pathologist and the biologist-analyst where it is characteristically multilevel training (Kamyshnikov *et al*., 2008).

The specialty: "Doctor of clinical laboratory diagnostics" is not included in the category of medical specialties in

Corresponding Author: Ramazan D. Toxanbayev, Kazakhstan School of Public Health, Almaty, Dazakhstan

the republic. According to Zhangelova (2013)'s data, the specialists of laboratory medicine of Kazakhstan in equal shares have both medical and biological education.

Deficiency of the specialists of laboratory diagnostics is caused by closing of the departments: "Medical-biological affair" and training of the medical personnel for CLD only at a post degree stage. The existing number of problems in CLD at the Republic, demand the complex analysis of current situation. Quality of medical care depends on the CDL material base, technologies of carrying out research. And also the priority direction of improvement of quality of laboratory services is training of specialists of CDL of the top and average level, according to modern model of the specialist, increase of a skill level and relation to the duties of the medical personnel. Thus, studying of the opinion of laboratory service staff on quality of the rendered services by CDL will allow determining the structural components of quality of clinical and laboratory researches at the present stage.

MATERIALS AND METHODS

This research was conducted in Almaty City which is the city of republican value, the large industrial, financial, cultural center of the Republic of Kazakhstan that allows calling Almaty City as megalopolis. Rather large volume addressing to the ambulatory and polyclinic and stationary organizations of health care is caused by a high necessity for high-quality clinical and laboratory researches in the conditions of the megalopolis.

One of the most important quality components of work is the personnel: degree of its motivation in results of work, partnership in decision-making and their realization (both strategic character and tactical), determined among other things by the general knowledge of tasks and problems, character of relationship (in collective and with the management), i.e., intensity of "the total corporate culture". For an assessment of the specified aspects in the context of the analysis of problems of ensuring quality of work of laboratory service there were interrogated 217 employees of clinical and laboratory services by a continuous method.

The obtained results were filled in the tables MS Excel also the indicators were determined automatically and were sorted by various categories for monitoring of all types of laboratory activity: organizational structure of laboratories of healthcare, determination of the strong and weaknesses directions of the clinical laboratory system.

This interrogation was conducted on a voluntary basis and had anonymous character by means of filling of the questionnaire in the presence of the interviewer. Interrogation of respondents was conducted before work within 15-30 min. In the developed questionnaire, there were contained 35 questions which were reflected highlights of activity of CDL and were directed on studying of personnel structure and opinion of health personnel on the quality control system of laboratory services.

Assessment terms and participants: Interrogation was conducted from May 19 to July 25, 2014. The employees of the Regional Diagnostic Center, Scientific Center of Anti-Infectious Preparations, Kazakh Research Institution of Oncology and Radiology, Scientific Center of Urology named after B.U. Dzharbusynov, Research Institution of Cardiology and Internal Diseases, Municipal Clinical Hospital No. 1, Municipal Clinical Hospital No. 7, Municipal Clinical Hospital No. 5, Children's Municipal Clinical Infectious Diseases Hospital, Policlinic No. 17, "in vivo" Private Laboratory, Children's Hospital No. 2 were participated in poll.

RESULTS AND DISCUSSION

There were interrogated 217 employees of laboratory service, occupied both in state and in non-state Ministry Organizations (MO). The obtained data of poll testify to prevalence of age group in a hospital till 30 years (77%), in policlinic-there are persons >50 years (about 47%) in the medical center there are young people till 30 years (100%), employees, working in the diagnostic center have in equal ratios with age till 30 and 40-49 years (50%). The investigation of the level of the professional trainingss at the post-degree level was showed that the main type of specialization of the medical personnel of laboratory is primary specialization (79.2%).

According to the obtained data among specialists of hospitals of CDL: every third from the personnel has an experience <5 years, every fourth 5-10 and >15 years at the third of respondents (28%) and only every sixth respondent (15%) from a hospital has an experience of 11-15 years. It is noted the prevalence of employees with a considerable experience >15 years (69%) in the policlinic on the second place there are persons with an experience of 11-15 years (16%), every tenth has an experience <5 years, it is about 6% is worked 5-10 years. Thus, 100% of the interrogated workers of CDL of the medical centers have an experience <5 years. It is also noted that in the diagnostic center in 60% there had a presence of employees with an experience of 5-10 years and 40% have an experience till 5 years.

Table 1: Distribution of CDL specialists, depending on experience who are discussed the data of the laboratory researches with clinicians

	Do you often discuss about interpretation of results of laboratory researches with clinicians?		
CDL experience	Yes	No	Totally
Till 5 years	50	8	58
	86.2%	13.8%	100.0%
	27.0%	25.0%	26.7%
Till 5-10 years	44	7	51
	86.3%	13.7%	100.0%
	22.2%	41.7%	23.5%
Till 11-15 years	23	6	29
	79.3%	19.7%	100.0%
	12.7%	16.7%	13.3%
>15 years	73	6	79
	92.4%	7.6%	100.0%
	38.1%	16.7%	36.5%
Totally	190	27	217
	87.6%	12.4%	100.0%
	100.0%	100.0%	100.0%

The received results of the research testify to considerable commitment to discussion of interpretation of the research results with clinicians (Table 1). Staff of the laboratory services of hospitals are the most guarded and responsible and also the medical and diagnostic centers, the staff of policlinics of CDL and other Medio-Prophilactic Institution (MPI) who are also in the most cases, kept the urgency mode; however, there are about 12% in policlinic where every third in other MPI doesn't inform of the clinicians about adverse result.

The analysis and satisfaction of respondents by the management of the laboratory revealed high percent (about 86%) of positive estimates of activity of administration of laboratory service. Research of a material interest in increase of labor productivity depending on type of the medical organization was revealed that nearly two thirds of the interested in it work in a hospital (68%) thus, only the third part of respondents who noted material interest (31%) work in the polyclinic organizations and for another organizations is made only 15%. Thus, among all respondents, the main part accurately expressed the position on the subject of a material interest are employees of the state hospitals thus three fourth are interested in increase of labor productivity at material stimulation. Respectively, the employees of the private medical centers (in 100% of cases) noted the connection of material stimulation and productivity of the work.

Thus, the age structure of CDL of MO testifies to prevalence of age group of youth till 30 years in the medical center and a hospital in policlinic and on the contrary about a half of employees there are persons >50 years. Thus, in 55% of cases the heads of laboratories are people of 40-49 years, i.e, rather skilled employees. A main type of specialization of the medical personnel of laboratory service is primary specialization that confirms relevance of carrying out different types of professional development of employees of laboratory service. Thus, the main medical organizations are the state where it was revealed considerable prevalence of CDL employees. More than two thirds of specialists have sufficient experience in laboratory service that is positively characterized with the professional level of CDL employees. Also received results of research testify to considerable commitment to discussion of interpretation of results of research with clinicians in all groups of distribution of respondents on an experience. Thus, the greatest percent is observed in group of respondents with an experience >10 years and in a hospita and only every tenth CDL employee doesn't discuss the results of laboratory researches with clinicians that in general, it is positively characterized by the interaction of MPI employees with CDL employees. Interest causes that fact that among employees of the medical and diagnostic centers there are no employees of laboratory service who would not discuss data of researches with clinicians and it is testified about a difference in algorithm of work of employees of laboratory service of a public sector and the non-state medical organizations. According to the obtained data, practically all employees of stationary and polyclinic CDL report to clinicians at once about disturbing results of laboratory researches and employees of the medical and diagnostic centers in 100% inform at once clinicians in case of life-threatening results of laboratory researches. The respondents, working in other medical organizations, inform the clinicians only in two of three cases in the urgent mode. Thus, staff of the laboratory services of hospitals is the most guarded and responsible and also the medical and diagnostic centers, the staff of policlinics of CDL and other MPI who are also in the most cases, kept the urgency mode. The carried out analysis of satisfaction of respondents of the laboratory management was revealed that the vast majority actions positively characterized by the activity of administration of laboratory service that is testified about close benevolent relationship in collective. The 83% were noted compliance of the used equipment to modern requirements, though at the same time there was noted an opinion about some shortcomings.

As the research was showed, more than half of the administrative employees working in a hospital had the positive assessment to laboratory service and every fourth, positively estimated policy of administration-works in the polyclinic organization. However, from all numbers of respondents of employees of the medical centers absolute majority found it difficult to give any assessment of the relation of administrative

employees to the laboratory service. Research of a material interest in increase of labor productivity depending on type of the medical organization was revealed that the majority, interested in it, works in a hospital; thus only a third, who were noted a material interest, works in the polyclinic organizations. Thus, among all respondents the main part, accurately expressed the position on an occasion of a material interest are employees of the state hospitals thus, three fourth are interested in increase of labor productivity at material stimulation. Respectively, employees of the private medical centers noted in 100% of cases the connection of material stimulation and productivity of the work that is confirmed the relevance of the pecuniary reward for rendering quality services by employees, both private (100%) and state (74%) of the health care sector.

CONCLUSION

On the basis of our research we are assumed that the available personnel structure of the personnel of CDL and the quality control system of laboratory services are adequate to modern conditions but there should be pay attention to the revealed topical issues of training, professional development and material stimulation of work of employees of CDL.

Thus, the carried-out analysis of research among the health-care CDL employees testifies to rather effective quality control system, both in state and in a non-state health care sector. However, there is should be noted about the revealed topical issues of professional development and material stimulation of work of CDL employees for improvement of process of high-quality and safe rendering laboratory services.

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