

IMPROVING THE QUALIFICATIONS OF MEDICAL PERSONNEL AS A FACTOR FOR IMPROVING ONCOLOGICAL CARE IN KAZAKHSTAN

M.K. BAYMOLDAYEVA¹, A.M. SEITKAZIYEVA²

¹Kazakh Institute of Oncology and Radiology, Almaty, the Republic of Kazakhstan;

²Kazakh-British Technical University, Almaty, the Republic of Kazakhstan

ABSTRACT

Relevance: The growing need for highly qualified medical personnel, especially in oncology, makes staff development essential in improving oncological care. The dynamically developing healthcare system of Kazakhstan requires adapting educational programs for medical professionals to modern requirements and challenges and ensuring their accessibility, regularity, and practical orientation.

The study aimed to analyze the effectiveness of professional development programs for medical personnel of the Kazakh Institute of Oncology and Radiology and their impact on the quality of oncological care.

Methods: The research utilized both quantitative and qualitative data collection methods. It included questioning employees of the Kazakh Institute of Oncology and Radiology medical institutions and analyzing statistical information.

Results: Key issues related to the accessibility and regularity of educational programs, staff's insufficient awareness of the possibilities of continuing education, and programs' inconsistency with current professional needs and the needs of medical professionals have been identified.

Conclusion: Increasing the effectiveness of professional development programs for medical personnel requires improving their accessibility, strengthening their practical orientation, and introducing modern training techniques. Implementing these recommendations will contribute to the growth of the professional level of medical workers, which, in turn, will improve the quality of oncological care in Kazakhstan.

Keywords: further training, medical staff, oncological care, education, Kazakhstan, innovation, professional development.

Introduction: With the onset of the Fourth Industrial Revolution, accompanied by rapid changes in globalization, technological development, production, and social processes, the role and impact of lifelong learning on the development of individuals, organizations, and countries has increased significantly. In a knowledge-based and service-oriented economy, lifelong learning is critical to building an organization's human capital. An individual's knowledge and skills are a set of competencies. When they become an employee, their competencies turn into corporate human capital, so the management should support the lifelong learning of employees to contribute to the organization's development [1].

Investing in the development of human potential, the employer should develop and implement a human potential management system that will ensure continuous monitoring of key components, such as education and professional skills. International policy documents and standards confirm the need for such monitoring. This emphasizes the importance of skills analysis in the labor market and the educational sphere [2].

Training and professional development within lifelong learning are important drivers of change in the education system and business. This is the basis for im-

proving the overall competitiveness of both employees and organizations as a whole. To support human development, it is crucial to create effective solutions to encourage and support lifelong learning, thus ensuring that employees are highly qualified at all stages of their professional lives [3].

In line with the measurements and management actions taken, outcomes related to workforce development, understanding, acceptance, alignment with strategic objectives, continuous learning, and evaluation should be expected. As the fifth dimension emphasizes, it is crucial to implement evaluation and control systems to monitor the contribution of employees' qualifications [4].

In critical areas such as health care, workforce management can be essential not only to ensure productivity, profitability, and competitiveness. Monitoring the skills of the health workforce can also improve the quality of care and patient safety. The healthcare workforce can be defined as people involved in activities that aim to promote health. This definition includes clinical, managerial, and support workers [5].

The Organization for Economic Cooperation and Development (OECD) Adult Skills Survey indicates a sig-

nificantly higher level of skills mismatch among health workers than other professional workers, indicating the risk of a skills gap. Skills mismatch can be caused by deficiencies in education and training systems, as well as deficiencies in health systems and workplace organization, so a systematic approach to skills assessment is needed. In addition, it is vital for health workers not only to have the necessary skills but also to use them effectively [6].

As recommended by the World Health Organization (WHO), transformative, high-quality education and lifelong learning must be implemented to ensure that all health workers have skills relevant to the health needs of the population and can perform to their full potential; education and training must be practice-oriented and tailored to the needs of the health system. Thus, effective and purposeful human capital management can serve not only personal growth and the strategic goals of healthcare organizations but also the functioning of the public health system [7, 8].

The study aimed to analyze the effectiveness of professional development programs for medical personnel of the Kazakh Institute of Oncology and Radiology (KazIOR) and their impact on the quality of oncological care.

Materials and methods: The target group of the study consisted of 100 employees (including medical workers and support staff) of KazIOR. The probability sampling method was used to select respondents. Each of the study participants voluntarily agreed to participate in the questionnaire.

The study assesses employee satisfaction with existing educational programs, identifies barriers and problems that prevent effective training, and develops recommendations to improve the system of continuing professional education of health workers. The study assessing the effectiveness of continuing professional development programs at KazIOR was conducted using a combined methodology, including quantitative and qualitative data collection methods. The primary information collected from the organization's employees was quantitative. For this purpose, a questionnaire including closed-ended questions based on the Likert scale was developed. The questionnaire was pre-tested to ensure clarity of questions and to obtain reliable and accurate data. The questions in the questionnaire covered various aspects related to professional development programs, such as relevance, usefulness, frequency of participation, and employee satisfaction.

Survey: To improve staff qualification, the Center regularly organizes various workshops and training, among which are: "Modern Methods of Diagnosis and Treat-

ment of Malignant Tumors" (120 hours), "General Nursing Technologies" (120 hours), "Innovative Technologies in Laboratory Diagnostics" (120 hours), "Management in Nursing" (120 hours), "Resuscitation and Intensive Care in Emergency Conditions" (120 hours) and "Nursing Competencies in Oncology" (120 hours). In addition to these courses, the Center also conducts other educational programs to improve health workers' professional skills. These activities contribute to improving the competence of specialists, sharing experience among staff, and introducing modern approaches into clinical practice.

We offered open-ended questions To better understand employees' needs and preferences and collect the participants' opinions on possible improvements to the educational programs. The questionnaire was carefully designed to gather information from KazIOR employees on possible key variables that clarify the selection criteria used to allocate funding to employees and identify the benefits associated with the fact that funding improves employee productivity and the organization's sustainability potential. The questions covered topics such as relevance and usefulness of training, frequency of participation, employee satisfaction, and evaluation of workshops and courses conducted at KazIOR. The questionnaire allowed for assessing the relevance and demand for such training among the staff. To determine and ensure the validity of the questionnaire, it was pre-tested, considering the sample size to ensure a thorough comparison of the research questions and objectives and to create an effective and reliable data collection tool.

Data Analysis: The primary data collected from the respondents were coded in the SPSS software (version 23.0). The collected data were cross-checked to ensure that there were no errors. A chi-square test was conducted to analyze the relationship of the variables. Cronbach's alpha test with a significance coefficient of 0.75 was used to test the reliability and validity of this study. The overall reliability scores below were high (0.908) for the six items tested. This indicates a high degree of acceptability and consistency of scores across categories in this study. Data analysis revealed key aspects that influence the effectiveness of professional development programs and employee satisfaction.

Results: In the course of the study aimed at assessing the satisfaction of the medical staff of KazIOR with professional development programs, 100 institution employees were interviewed. Respondents assessed professional development programs' relevance, usefulness, and impact on their professional activities. The study results are statistical data based on a five-point

Likert scale. For each statement, a Chi-square test was conducted.

1. Relevance of professional development programs:

When asked how relevant professional development programs are to providing oncological care, as seen in Figure 1, 72% of respondents rated them as relevant or very relevant. Specifically, 42% of respondents rated

them as "5" (very relevant) and 30% rated them as "4" (mostly relevant). Meanwhile, 18% of respondents expressed a neutral attitude (rated "3"), and 10% found the programs to be marginally relevant (rated "2").

The results of the Chi-square test of goodness of fit showed that this result was statistically significant (standard value = 1.5897; mean = 4.12; p=0.000).

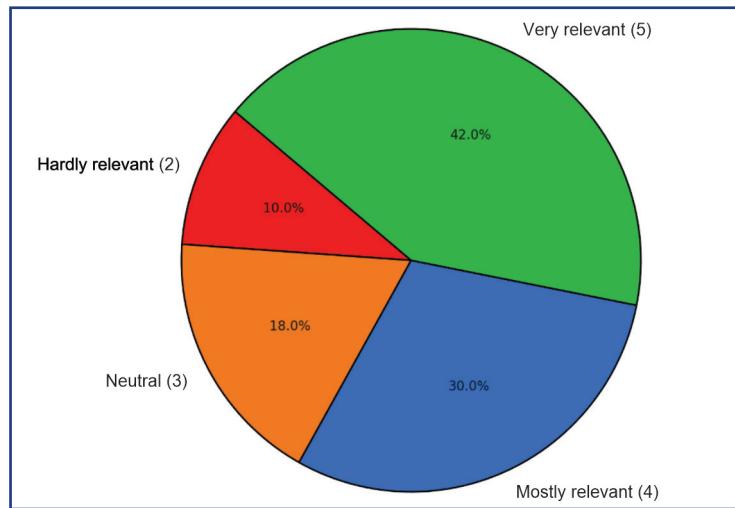


Figure 1 – Relevance of professional development programs conducted at KazIOR

2. Satisfaction with professional development opportunities: On the question of satisfaction with current professional development opportunities, 60% of respondents expressed satisfaction by rating "4" (satisfied), and 18% were fully satisfied (rating "5"). At the same time, 15% of

respondents reported partial dissatisfaction (rated "2") and 7% were completely dissatisfied (rated "1") (Figure 2).

The results of the Chi-square test of goodness of fit showed that this result was statistically significant (standard value = 1.3456; mean = 3.84; p=0.000).

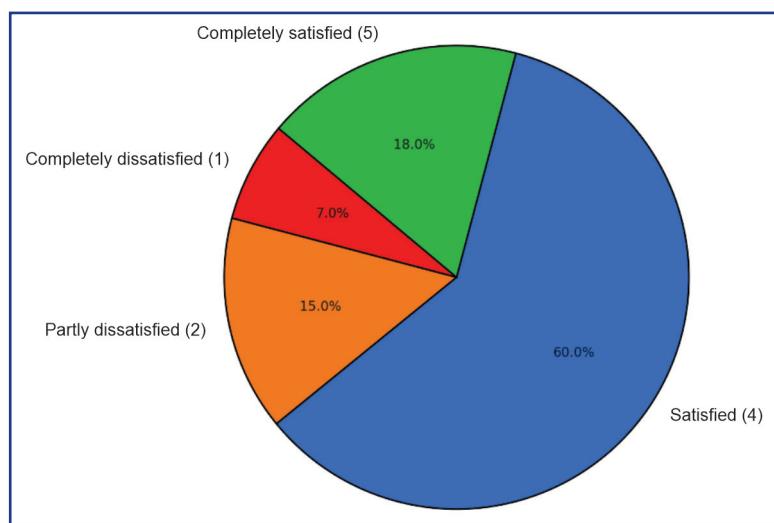


Figure 2 – Employee satisfaction with professional development opportunities provided at KazIOR

3. Usefulness of professional development courses: An assessment of the courses' usefulness in improving the quality of cancer care for patients showed that 70% of respondents found them useful or very useful. 40% of

participants rated them at "5" and 30% at "4". 16% of respondents gave a neutral rating ("3"), and 14% found the courses to be not useful or not very useful (scores "1" and "2") (Figure 3).

The results of the Chi-square test of goodness of fit showed that this result was statistical-

ly significant (standard value = 1.4502; mean = 4.01; p=0.000).

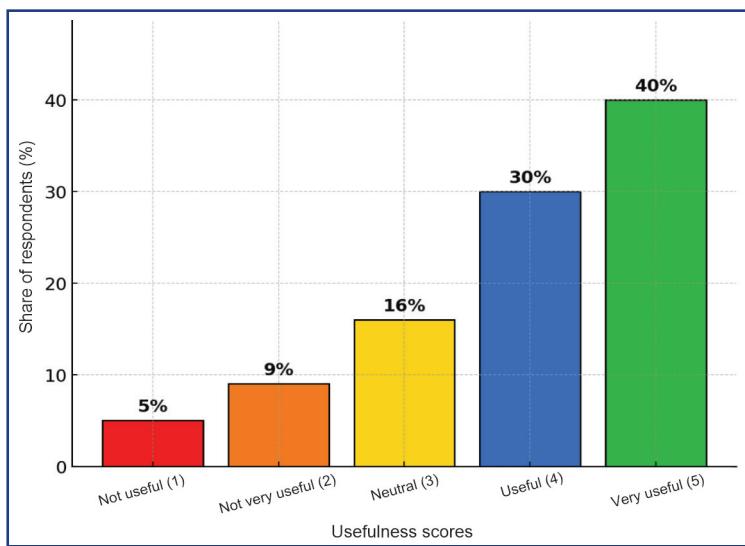


Figure 3 – Usefulness of professional development courses by the assessment of KazIOR employees

4. Frequency of participation in training and workshops: The illustration in Figure 4 shows that the frequency of opportunities to participate in training, workshops and professional development courses was quite high: 58% of respondents stated that such events are held regularly (rated "5"), and 25% stated that they are held frequent-

ly (rated "4"). Only 13% of respondents indicated that they rarely participate in such events (rated "2"), and 4% do not participate in them at all (rated "1").

The results of the Chi-square test showed that this result was statistically significant (standard value = 1.6821; mean = 4.10; p=0.000).

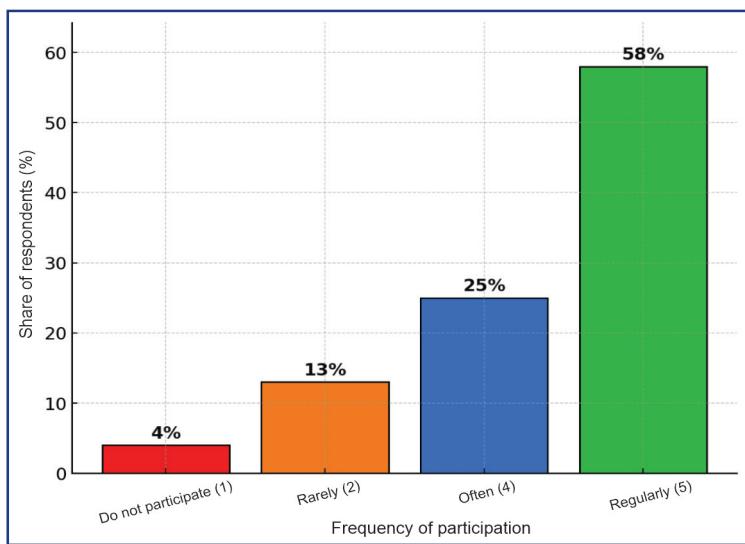


Figure 4 – Frequency of participation in training and workshops of KazIOR employees

5. Quality of professional development courses: As shown in Figure 5, according to most respondents, the qualifications and skills of trainers of professional development courses are satisfactory overall. 47% of the respondents rated it as "4" (high level), and 30% rated it as "5" (very high level). However, 18%

of the employees shared doubts about the quality of teaching, rating it as "2", and 5% gave the lowest rating of "1".

The results of the Chi-square test showed that this result was statistically significant (standard value = 1.3025; mean = 3.85; p=0.000).

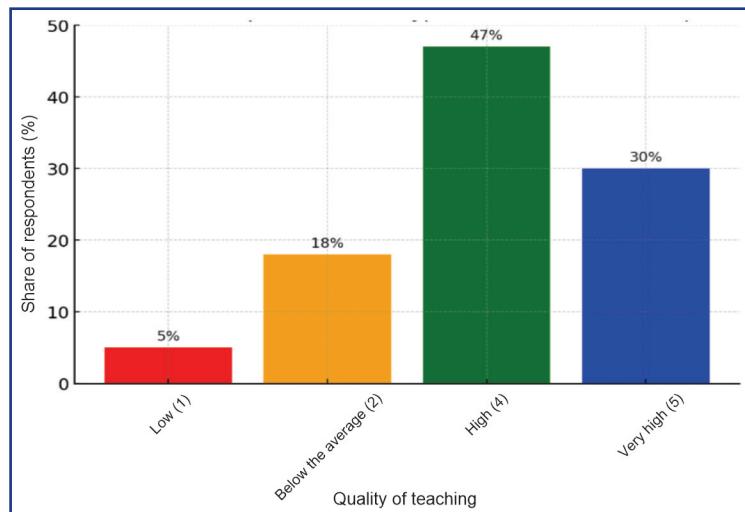


Figure 5 – Quality of professional development courses provided at KazIOR

6. *Impact of professional development on excelling qualification:* Regarding the impact of professional development courses on professional growth and efficiency in working with patients, as can be seen in Figure 6, 60% of respondents indicated that the training significantly improved their professional skills and increased their efficiency (rating "5").

25% believe that the training has brought some improvements (rating "4"), and 10% did not notice any changes in their work after taking the courses (rating "3").

The results of the Chi-square test showed that this result was statistically significant (standard value = 1.5783; mean = 4.12; p=0.000).

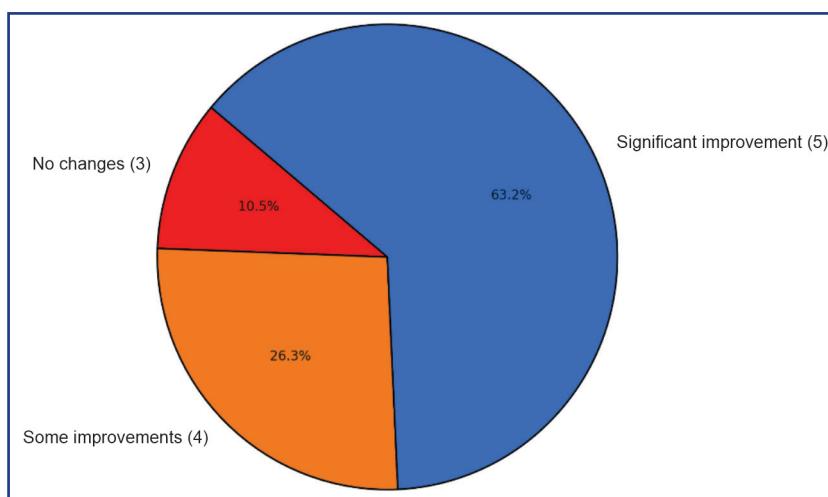


Figure 6 – Impact of professional development on excelling qualification of the employees of KazIOR

7. *Needs for improvement of the professional development system:* According to the open-ended questions of the questionnaire, the majority of respondents expressed a desire to improve the professional development system, suggesting an increase in the frequency of courses in specific areas of oncology, as well as an increase in the practical component of training. Some respondents also indicated the need to improve the quality of educational materials and the training format, for example, by using modern technologies.

Recommendations: Based on the study results, we can identify several key recommendations aimed at improving the system of professional development of KazIOR employees.

First, it is important to periodically update the content of continuing education programs to reflect the latest advances in oncology. This will help ensure that the courses are up-to-date and aligned with modern medical standards. Regular updates will keep staff up-to-date with new diagnostic and

treatment methods, directly impacting patient care quality.

In addition, to make educational programs available to more staff, additional courses and training should be organized regularly. This will ensure that all professionals, regardless of their work schedule, have the opportunity to receive training and professional development. Such changes will ensure that all employees are reached, ensuring that they have the opportunity to grow professionally and improve their skills.

It is also worth paying attention to improving the practical component of the courses. Training programs must include more practical exercises, training, and case studies. This will help staff apply their knowledge in practice and improve their work with patients, improving the quality of cancer care.

In addition, to improve the effectiveness of educational programs, it is necessary to invest in the professional training of teachers. Improving pedagogical skills and continually updating faculty members' knowledge of oncology will allow for the creation of better and more relevant courses. It is also important to establish a system of regular feedback from course participants, which will allow timely identification of shortcomings in the educational process and adjustment of teaching approaches.

An equally important aspect is the integration of modern technologies into the training process. Using online courses, virtual simulators, and tools will make education more accessible, especially for those employees who cannot attend training due to busy work schedules or locations. This will provide flexibility and convenience in the professional development process.

In addition, there is a need to develop a system that will track the impact of courses on employees' professional skills. With such a system, it will be possible to identify which courses have the greatest impact on improving the quality of work and which courses need to be refined. This will allow efforts to be directed towards further improvement of educational programs, making them as effective as possible.

Another important aspect is to ensure that training is individualized. Different levels of employees' knowledge and needs should be considered when organizing courses. Providing a choice of courses depending on professional specialization and skill level will allow each employee to develop the skills needed for their job, ultimately improving the team's overall performance.

Finally, attention should be paid to expanding the range of specialized courses. Including new programs related to specific areas of oncology, such as innovative diagnostics, treatment and palliative care methods, will

help staff deepen their knowledge and improve their skills in specific areas. This will also positively impact the quality of cancer care and the development of the specialists.

Discussion: The study's results confirm that professional development programs conducted in KazIOR play a key role in improving oncological care. The high level of employee satisfaction indicates the demand for educational activities. However, barriers related to the lack of staff awareness of training opportunities and inconsistent program content with current professional demands were identified. This indicates the need to modernize the continuing medical education system, introduce more flexible and practice-oriented training methods, and strengthen information support. Improving the availability and quality of educational initiatives in KazIOR can contribute to the growth of the professional competence of medical workers and, as a consequence, increase the efficiency of oncologic care.

Conclusion: The KazIOR staff development program aims to develop employees' professional skills by creating opportunities for their training and improvement. This allows for maintaining a high level of employee qualification and contributes to improving medical services in oncology, which is important for the organization's sustainability and growth. The program aims to develop each employee's potential, ultimately improving the team's overall performance.

The findings of our study show that, despite the availability of the professional development program, it does not fully fulfill its task and has no proper impact on improving employees' professional skills. The main obstacles are the limited availability of educational programs and a lack of information about this program's opportunities. This has resulted in most employees not seeing significant improvement in their professional performance and believing there is no tangible benefit from participating in the program. Thus, a lack of awareness and unclear communication about the program's purpose and benefits made it less effective.

In addition, the study found that a lack of regular and systematic professional development programs reduces an organization's flexibility and ability to adapt quickly to new demands in the field of oncology. Continuing education programs must be regularly reviewed to keep pace with changes in medical standards and new technological advancements, ensuring that employees are always one step ahead in their professional activities. Thus, regularly updating educational programs is key to the organization's success.

Also, the study's results emphasize that insufficient evaluation of the effectiveness of educational courses

leads to insufficient adaptation of programs to the real needs of employees and the organization. The introduction of mechanisms for monitoring and regular evaluation of the effectiveness of programs will allow for a more accurate assessment of their relevance and feasibility, as well as timely adjustments. This will ensure higher efficiency and allow the organization's resources to be used effectively.

The study's findings confirm that an employee development program is important for developing individual professionals and the organization. However, for the program to impact skills development and productivity, significant improvements are needed in its accessibility, employee awareness, and the regularity of the courses. Having all stakeholders understand the program's benefits and clearly define its objectives will ensure educational initiatives' success and long-term effectiveness.

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АНДАТПА

ҚАЗАҚСТАНДА ОНКОЛОГИЯЛЫҚ ҚӨМЕКТІ ЖЕТІЛДІРУ ФАКТОРЫ РЕТИНДЕ МЕДИЦИНАЛЫҚ ПЕРСОНАЛДЫҢ БІЛІКТІЛІГІН АРТТАРЫ

М.К. Баймұлдаева¹, А.М. Сейтказиева²

¹«Қазақ онкология және радиология ғылыми-зерттеу институты» АҚ, Алматы, Қазақстан Республикасы;

²«Қазақстан-Британ техникалық университеті» АҚ, Алматы, Қазақстан Республикасы

Озекмілігі: Жоғары білікті медициналық кадрларға, әсіреле онкология саласында өсіп келе жатқан қажеттілік персоналдың біліктілігін арттыруды онкологиялық қомекті жетілдірудің маңызды факторына айналдырады. Қазақстанның қарқынды дамып келе жатқан денсаулық сақтау жағдайында медицина қызметкерлеріне арналған білім берударламаларын олардың қолжетімділігін, жүйелілігін және практикалық бағыттылығын қамтамасыз етеп отырып, қазіргі заманғы талаптар мен сын-тегеуіндерге бейімдеу қажет.

Зерттеудің мақсаты – "Қазақ онкология және радиология ғылыми-зерттеу институты" АҚ медициналық персоналның біліктілігін арттыру багдарламаларының тиімділігін және олардың онкологиялық қомектің сапасына әсерін талдау.

Әдістері: Зерттеудерді жинаудың сандық және сапалық әдістерін қолдануды қамтиды. Жұмыс барысында "Қазақ онкология және радиология ғылыми-зерттеу институты" АҚ қызметкерлеріне сауалнама жүргізу, статистикалық ақпаратты талдау, сондай-ақ кесіптік даярлық талаптарына сәйкестігін тестілеу қолданылды.

Нәтижелері: Білім берударламаларының қолжетімділігі мен жүйелілігіне, қызметкерлердің білім берудің жалғастыру мүмкіндіктері туралы хабардар болмауына, сондай-ақ багдарламалардың медицина қызметкерлерінің өзекті көсіби сұраныстары мен қажеттіліктеріне сойкес келмеуіне қатысты негізгі проблемалар анықталды.

Қорытынды: Медициналық персоналдың біліктілігін арттыру багдарламаларының тиімділігін арттыру үшін олардың қолжетімділігін жақсарту, практикалық бағыттылығын күшейту және оқытудың заманауи технологияларын енгізу қажет. Осы үсінімдерды іске асыру медицина қызметкерлерінің көсібі деңгейнің осуіне ықпал етеді, бұл өз кезегінде Қазақстанда онкологиялық көмектік сапасын жақсартуға әкеледі.

Түйінді сөздер: біліктілікті арттыру, медициналық персонал, онкологиялық көмек, білім беру, Қазақстан, инновация, көсібі даму.

АННОТАЦИЯ

ПОВЫШЕНИЕ КВАЛИФИКАЦИИ МЕДИЦИНСКОГО ПЕРСОНАЛА КАК ФАКТОР СОВЕРШЕНСТВОВАНИЯ ОНКОЛОГИЧЕСКОЙ ПОМОЩИ В КАЗАХСТАНЕ

М.К. Баймольдаева¹, А.М. Сейтказиева²

¹АО «Казахский научно-исследовательский институт онкологии и радиологии», Алматы, Республика Казахстан;

²АО «Казахстанско-Британский технический университет», Алматы, Республика Казахстан

Актуальность: Растущая потребность в высококвалифицированных медицинских кадрах, особенно в сфере онкологии, делает повышение квалификации персонала важнейшим фактором совершенствования онкологической помощи. В условиях динамично развивающегося здравоохранения Казахстана необходимо адаптировать образовательные программы для медицинских работников к современным требованиям и вызовам, обеспечивая их доступность, регулярность и практическую направленность.

Цель исследования – анализ эффективности программ повышения квалификации медицинского персонала АО «Казахский научно-исследовательский институт онкологии и радиологии» (КазНИИОиР, Алматы, Казахстан) и их влияния на качество онкологической помощи.

Методы: Исследование включает использование как количественных, так и качественных методов сбора данных. В ходе работы применялись анкетирование сотрудников АО «Казахский научно-исследовательский институт онкологии и радиологии», анализ статистической информации.

Результаты: Выявлены ключевые проблемы, касающиеся доступности и регулярности программ повышения квалификации, недостаточной осведомленности сотрудников о возможностях продолжения образования, а также несоответствия программ актуальным профессиональным запросам и потребностям медицинских работников.

Заключение: Для повышения эффективности программ повышения квалификации медицинского персонала необходимо улучшение их доступности, усиление практической направленности и внедрение современных технологий обучения. Реализация данных рекомендаций будет способствовать росту профессионального уровня медицинских работников, что, в свою очередь, приведет к улучшению качества онкологической помощи в Казахстане.

Ключевые слова: повышение квалификации, медицинский персонал, онкологическая помощь, образование, Казахстан, инновации, профессиональное развитие.

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Authors' data:

M.K. Baimoldayeva (corresponding author) – DBA, PhD candidate at Kazakh-British Technical University, Deputy Chairman of the Board for Financial and Economic Issues at Kazakh Institute of Oncology and Radiology, Almaty, Republic of Kazakhstan, +77789530007, e-mail: maria_b89@mail.ru, ORCID: 0009-0000-0614-3799;

A.M. Seitkazieva – Doctor of Economics, Professor, Kazakh-British Technical University, Almaty, Republic of Kazakhstan, tel. +77017148156, e-mail: seitkazieva58@gmail.com, ORCID: 0000-0002-0641-1498.

Address for correspondence: M.K. Baimoldayeva, Kazakh Institute of Oncology and Radiology, Abay Ave. 91, Almaty 050000, the Republic of Kazakhstan.