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ON THE ROLE OF CLINICAL MENTORS IN THE CONTEMPORARY MEDICAL EDUCATION OF MEDICAL RESIDENTS

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Abstract

Introduction: In modern society, the role of mentors in training young professionals is significant as they do not only transfer their own experience, but also their traditions and professional culture.

The purpose of this study is to examine the importance of the mentoring role in training of resident neonatologists and their ability to apply the knowledge in effective independent medical activities of practical health care.

Methods: within the premises of the perinatal centers No. 1 and No. 2 in the regional clinical hospitals, which are equipped with modern innovative technologies to provide neonatal care, the department have created appropriate conditions for effective work in the systems of practical health care and atmosphere for the students to acquire and develop students' clinical and practical skills. The algorithm to follow and the amount of information are presented by the department for training clinical mentors.

The satisfaction of clinical mentors in the quality of training of resident neonatologists was assessed against the knowledge gained in this discipline evaluated by an anonymous questionnaire, which was carried out after the study of compulsory and major disciplines in the period from 2019 to 2022.

Results: based on the analysis of the work carried out, the majority of the students noted the high level of professionalism of clinical mentors, who navigated and guided them in the practical application of their knowledge gained by helping them to focus on the use of the studied material in the professional activities falling short of clinical cases (at the supervision, the Center of practical skills). 92.6% of the respondents noted that clinical mentors were interested in the success of students, showed respect and were demanding in the learning process at the same time. The assessment results of the graduates at an independent examination showed a consistently positive trend in mastering the results of the residency program in the specialty 7R011114 Neonatology.

Conclusions: Mentoring is one of the promising practices for the professional development of doctors and physicians since medicine requires a professional to have practical experience and high skill to ensure the safety of the patient in the process of medical activity.

Keywords: clinical mentor, medical education, resident, educational process, clinical work.

Резюме

К ВОПРОСУ О РОЛИ КЛИНИЧЕСКОГО НАСТАВНИКА В СОВРЕМЕННОМ МЕДИЦИНСКОМ ОБРАЗОВАНИИ ВРАЧЕЙ-РЕЗИДЕНТОВ

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Введение: В современном обществе роль наставника, передающего не только собственный опыт, но и традиции, культуру профессии, в подготовке молодых специалистов, очень значима. Эффективное развитие наставничества и использование опыта зарубежных стран для подготовки мобильного, творческого, конкурентоспособного врача высокой квалификации является залогом успеха в клинической работе специалиста.

Целью работы стало изучение вопроса о значимости роли наставника в обучении резидентов неонатологов и умение их применить для эффективной самостоятельной врачебной деятельности в практическом здравоохранении.

Материал и методы: за период 2019-2022 гг. на кафедре педиатрии и неонатологии Медицинского университета Караганды обучались 43 резидента по специальности «Неонатология». Кафедрой на базе КГП ОКБ перинатальных центров №1, 2, оснащенные современными инновационными технологиями для оказания неонатальной помощи совместно созданы соответствующие условия и атмосфера для приобретения и освоения обучающимися клинических и практических навыков, для эффективной работы в системе практического здравоохранения. Представлен алгоритм и объем информации для подготовки клинических наставников кафедрой.

Нами осуществлен анализ удовлетворенности клинических наставников при подготовке резидентов неонатологов, качеством преподавания и оценкой полученных знаний по данной дисциплине посредством анонимного анкетирования, которое проводилось после изучения обязательных и профилирующих дисциплин в период 2019- 2022 г.г.

Результаты: на основании анализа проведенной работы, резиденты неонатологи признали, что клиническими наставниками применялись довольно разнообразные формы наставничества. Большинство обучающихся отметили высокий уровень профессионализма клинического наставника, которые в ходе обучения нацеливают их на практическое применение полученных знаний, ориентировали их на использование изучаемого материала в профессиональной деятельности, проигрывая в реалиях (на курации, центре практических навыков). 92,6% респондентов отмечают, что клинические наставники заинтересованы в успехах обучающихся, уважительны и одновременно требовательны в процессе обучения. Результаты оценки выпускников на независимой экзаменации, показывают стабильно положительную динамику в освоении результатов обучения программы резидентуры по специальности 7R011114 «Неонатология».

Выводы: Наставничество является одной из перспективных практик профессионального развития врачей, поскольку медицина требует от врача наличия практического опыта и высокого мастерства, обеспечения безопасности пациента в процессе медицинской деятельности.

Ключевые слова: *клинический наставник, медицинское образование, резидент, учебный процесс, клиническая работа.*

Түйіндеме

РЕЗИДЕНТ ДӘРІГЕРЛЕРДІҢ ЗАМАНАУИ МЕДИЦИНАЛЫҚ БІЛІМІНДЕГІ КЛИНИКАЛЫҚ ТӘЛІМГЕРДІҢ РӨЛІ

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Кіріспе: Қазіргі қоғамда жас мамандарды даярлау барысында өз тәжірибесін ғана емес, сонымен қатар дәстүрлерді, мамандық мәдениетін де жеткізетін тәлімгердің рөлі өте маңызды. Шет ел мемлекеттердің тәжірибесін пайдалана отырып, тәлімгерлікті тиімді дамыту, мобильді, шығармашылықты, біліктілігі жоғары бәсекеге қабілетті дәрігерді даярлау, маманның клиникалық жұмысындағы табыстың кепілі болып табылады.

Зерттеу мақсаты: неонатолог резиденттерді оқытудағы тәлімгердің рөлінің маңыздылығы туралы және оларды практикалық денсаулық сақтауда өздігінен дәрігерлік қызметте қолдану мәселесін зерттеу болды.

Әдістері: КМК ОКА базаның, №1, 2 перинаталды орталықтағы кафедрада неонаталдық көмек көрсетумен бірге, білім алушылардың клиникалық және практикалық дағдыларды меңгеруі мен игеруі үшін, практикалық денсаулық сақтау жүйесінде тиімді жұмыс істеу мақсатында тиісті жағдай жасалып, заманауи инновациялық технологиялармен жабдықталған. Кафедра клиникалық тәлімгерлерді даярлау үшін алгоритм мен ақпарат көлемін ұсынды.

Біз 2019-2022 ж. ж. аралығындағы неонатолог резиденттерді даярлау кезінде клиникалық тәлімгерлердің қанағаттанушылығына, оқытудың сапасына және осы пән бойынша алған білімдерін бағалауға, міндетті және бейіндеуші пәндерді оқығаннан кейін анонимді сауалнама жүргізу арқылы талдау жасадық.

Нәтижелер: жүргізілген жұмысты талдау негізінде білім алушылардың көпшілігі клиникалық тәлімгердің кәсібилігінің жоғары деңгейін атап өтті, оқыған материалды кәсіби қызметте қолдану, нақты жағдайда ойнату арқылы (курацияда, практикалық дағдылар орталығында) оқу барысындағы алған білімдерін практикаға қолдануға бағыттайды. Респонденттердің 92,6% клиникалық тәлімгерлер білім алушылардың жетістіктеріне қызығушылық танытатынын, оқу барысында құрметпен және бірегей талапшыл екенін атап өтті. 7R011114 «Неонатология» мамандығы бойынша резидентура бағдарламасын оқығаннан кейін, түлектерді бағалауда тәуелсіз емтихан нәтижелері тұрақты түрде оң нәтиже көрсетуде.

Қорытынды: Тәлімгерлік - дәрігерлердің кәсіби дамуының перспективті тәжірибесінің бірі болып табылады, өйткені медициналық қызмет процесінде пациенттің қауіпсіздігін қамтамасыз ету үшін, медицина дәрігерден практикалық тәжірибе мен жоғары шеберлікті талап етеді.

Түйінді сөздер: клиникалық тәлімгер, медициналық білім, резидент, оқу барысы, клиникалық жұмыс.

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Introduction

One of the most important components of strengthening health systems is strategies for the development of qualified human resources. Worldwide, the effectiveness of health systems and the quality of health services depend on the performance of employees, which is determined by their skills, abilities and motivation [8,15].

The professional competency is ensured not only by theoretical training of future doctors and development of their practical skills by using simulators in educational and clinical centers with standardized patients involved, but also through the training of residents in practical conditions on the basis of the practical health institutions [2].

Clinical practice is the stage of training at which a resident physician learns to manage, perform and evaluate necessary manipulations, relying on the knowledge, skills and competencies gained during training. In the age of innovation of modern education, the role of mentoring is vital.

Concepts such as shadowing, coaching, and mentoring should be distinguished as they complement each other and are close in spirit. Coaching is not aimed at transferring knowledge and developing skills to a greater extent as at activating the processes of self-learning and self-development. This is done by providing continuous feedback in the process of joint analysis of situations and problems. Mentoring combines the hallmarks of coaching and teaching. Feedback is also important here, but a good theoretical foundation should be added. First of all, a mentor shares the theory, shows an example, and only afterwards, a student performs a task and receives feedback. Shadowing (buddying) focuses on the practical part [8,15].

It is one of the forms of professional experience transfer, where a young specialist master's professional technique, methods, manipulations under the direct supervision of an experienced professional [2].

The general purpose of it is to acquire the required professional skills and work experience, as well as to educate specialists how to become engaged in their work, be demanding of themselves, and always improve their professional skills and competence.

Mentoring (guidance) in various forms has existed since the 1930s. It has gained its momentum from 1970s [3]. From the point of view of the modern European theory of education, a mentor is a person with a certain experience and knowledge, a high level of communication, seeking to help his fellow to acquire the experience necessary and sufficient to master the profession [17]. Mentoring as a support system for future professionals was developed in the U.S. in 1970s, in large private sector corporations to support younger employees.

Since the 1990s, mentoring programs have been introduced in a variety of medical professions, most commonly in the field of nursing. According to one of the most commonly used definitions in the English-language scientific literature, "mentoring is the process by which an experienced, highly-regarded, empathetic person/mentor directs another (usually younger) person in his or her development and reconsideration of their own ideas and studies, personal and professional growth". The studies conducted among graduates have shown that mentoring in a medical school can help them make an earlier decision regarding their specialization in the residency training by building an oriented strategy in planning a subsequent career. In the sphere of medicine, the importance of mentoring is determined by the requirements of the patient safety, the requirements for the medical activity's effectiveness as well as the need to transfer the experience of the medical treatment [17,18].

The management of clinical mentoring training in the manner established by the educational organization was firstly determined by the State Compulsory Education Standard (GOSO), the Order of the Minister of Health and Social Development No. 647 as of July 31, 2015 (lost its force) and later by the State Compulsory Educational Standard of the Order of The Ministry of Health in the Republic of Kazakhstan No. 63 as of July 4, 2022 [16,19].

A mentor is defined as a qualified medical professional who contributes to the consolidation of theory and practice based on the clinical conditions. Mentoring is considered as one of the teaching methods when a more experienced employee shares his or her knowledge, skills and abilities within a specified period of time.

The residency curriculum provides the integration of practice and theory. It includes the content, the sequence of training of a resident doctor, the goals and outcomes of training based on the performance of tasks and medical care given to the patients. The mentor supervises the professional practice of the resident, conducts regular assessment and gives feedback. Upon completion of the discipline/module, the student is tested in the manner established by the organization. The mentor is appointed from qualified specialists of practical health care working at the residency institutions, having the first or the highest qualification category (work experience in the relevant specialty for at least 5 years). Mentoring is included in the duties and work schedule. The rules and procedure to

assign a mentor are determined by the residency independently but in coordination with the organization.

As per the literature reviews, mentoring also includes adaptation, training and support of a young specialist for a certain position [15].

Adaptation is understood as the process of incorporating newbies into the external and internal processes of the organization, developing certain behaviors, attitudes in accordance with the requirements of a particular professional environment as well as immersing into the corporate culture. The purpose of adaptation is an effective transfer of new specialists, employees, or reserve into a certain position. The adaptation objective is achieved by mentors who are ready to help, support, teach, advise and encourage.

The process of transferring knowledge, skills, techniques and means is invested in training, the basis of which is to stimulate potential and further professional development of a young specialist or employees included in the personnel reserve. The training goal is to develop competencies necessary for work in accordance with the established standards. Training is based on solving real professional problems, which department employees might be facing.

Guidance is considered to be a process of observation, consultation, personal participation, encouragement of a factual independent activity in a new situation with minimal participation of the mentor. The goal of such guidance is the further development of the personality capable to overcome the distance between learning and achieving real results [15].

The European medical schools also successfully apply the experience of mentoring. Moreover, universities apply a differentiated approach to design mentoring programs, which is also very important in terms of highlighting the individual needs of students. Thus, it is advisable to allocate groups for ordinary students, students with low academic performance and outstanding students. For the latter group, the goal will be to develop research skills (Medical Center of the University of Hamburg – Eppendorf) [8].

Mentoring is a labor and time-consuming educational process, which is psychologically complex at the same time. It contributes to the successful adaptation of residents, the qualitative mastery of the curriculum, personal professional growth as a future specialist, and requires great endurance, experience and, most importantly, the desire to do this educational activity.

The objective is to study the significance of mentoring in the training of resident neonatologists and the ability to apply this in the effective independent medical activity in practical health care.

Methods: within the premises of the perinatal centers No. 1 and No. 2 in the regional clinical hospitals, which are equipped with modern innovative technologies to provide neonatal care, the department have created appropriate conditions for effective work and atmosphere for the students to acquire and develop students' clinical and practical skills in the systems of practical health care.

The basic mentoring principles, which contribute to the effective cooperation and implementation of all the tasks of the mentoring program, can be expressed in the establishment of positive relationship with the mentee. The quality of mentoring relationships depends on the degree of

respect and trust between a mentor and a mentee, which is the most important factor in the personal growth of the latter. To ensure a positive experience of interpersonal relations, mentors receive the necessary psychological and pedagogical expertise, learn organizational and communication skills, the ability to maneuver in difficult situations or learn how to work with a group (in case of a group mentoring) or with the mentee's family if necessary. The dean's office and the department implement a training program of such mentors. It takes into account the main tasks they have to solve. The learning process is divided into two stages: primary training and training by doing, once in 3 years. Mentoring is impossible without feedback, so called "mentor – mentee– feedback". The satisfaction of clinical mentors in the quality of training of resident neonatologists was assessed against the knowledge gained in this discipline evaluated by an anonymous questionnaire, which was carried out after the study of compulsory and major disciplines in the period from 2019 to 2022.

Outcomes

The given study assumed that mentoring is managed by one mentor. To purposefully develop clinical thinking and approaches to diagnosis and treatment, it is advisable for the process to be managed by one mentor. This will help to avoid contradictions in the interpretation of certain information and, as a result, errors and conflicts.

The mentors are assigned in such a way to make sure one mentor is able to provide training to 3-4 residents, while his or her work is evaluated both by the residents themselves and by the tutor /program coordinator.

The teaching staff of the department and the residency mentor are jointly responsible for the preparation of the resident as well as training results. The resident works according to the individual residency curriculum independently designed by a resident for each academic year with the assistance of the coordinator.

Residency training includes classroom work, independent clinical work under mentor's guidance (hereinafter referred to as tutorials) and the actual resident independent work (hereinafter referred to as the RIW). The classroom work makes up 10-30%, while tutorials are 60-80%, and RIW – 10% of each discipline, depending on the study course. Residency Training includes practical work in the clinic with the purpose to acquire appropriate clinical / practical experience on the basis of residency corresponding to the levels of medical care in the chosen specialty [18].

The mentor is appointed from qualified specialists working for practical health care institutions on the basis of residency, having a certificate and experience of at least 5 years in the relevant specialty.

The independent clinical work under mentor's guidance is conducted under the guidance of a mentor, and is considered to be an extracurricular type of work of a resident, which includes: participation in morning medical conferences; supervision (management) / reception of patients in accordance with clinical protocols for diagnosis and treatment and the standards of medical care; participation in medical rounds, consultations, clinical reviews, pathology conferences, conducting or assisting in manipulations; participation in additional laboratory and

instrumental studies; development of communication skills, conducting information and explanatory work among the population; working in structural subdivisions of medical organizations; participation in medical examination; participation in screenings; participation in autopsies, post-mortem examination and examination of autopsy, biopsy and surgical materials; participation in the preparation of reports on the activities conducted by health organization's departments; night duty at least 4 times at clinical sites.

Discussion

Within 2019-2022, 43 Neonatology residents were trained at the Department of Pediatrics and Neonatology of the Medical University of Karaganda. The Heads of Departments were appointed as mentors, which made it possible to work effectively, develop the right attitude to work and conduct proper monitoring and control. The effectiveness indicators for the mentor's work are: acquisition of medical skills and competencies in the relevant specialty and successful examination.

Clinical mentors have been trained in a wide variety of mentoring activities: traditional, direct (direct contacts), goal-directed, situational, individual and group, formal and informal, etc.

Informal mentoring includes buddying, in which colleagues educate each other and help to network with other colleagues for mutual interests.

Formal mentoring has clear goals when a mentor and a young specialist concluded a conditional agreement on: 1) complete trust in each other, 2) mutual interest, mutual readiness to share experience and adopt this experience, 3) aspiration, motivation for self-growth and mastery. The department and clinical mentors discuss and plan potential professional activity, skills, methods and techniques, student assessment types subject to improvement or a head start.

The literature references mention various models of mentoring, for example, supervision, mentoring, consulting, coaching, facilitation, budding, shadowing, etc. Obviously, some mixed modeling and mentoring are possible since any interaction of two or more people is of a continuously changing living nature, which is due to the mutual influence on each other [12].

Based on the mentoring experience, there were several stages of interaction singled out between the mentor and the residents. The mentor and the residents connect emotionally thus, the mentor builds relationships with residents on trust and mutual understanding. The support of a more experienced and mature person helps in difficult, stressful, conflict situations, and enables a resident student to work more efficiently with the right attitude to problems. At the very beginning of the work, it is important that a young employee is accepted by the staff members [17,18]. During this period of adaptation, the mentor becomes a so-called protector of his or her mentee and should try to navigate and properly maneuver a training and work process to avoid any conflicts and resentments. Medical knowledge and skills have always been transmitted by word of mouth, and this tradition persists to this day. It is also mandatory to receive feedback from residents [5,14].

In order to provide proper mentoring, the mentors constantly have been developing creative potential in the

pedagogical and scientific research, improving their methods of work, interpersonal communication, upgrading their qualifications in the field of psychology, pedagogy, and teaching methods with the support and assistance of the department [13,20].

In the process of daily work with residents, the mentor helps the mentees to realize their strengths and weaknesses and determine the vectors of development; offers assistance in achieving the goals and desires of the mentee, pointing out the risks and contradictions without imposing his or her own opinion and position. The mentors stimulate the development of the mentee's individual vision, help to develop applied skills, abilities and competencies and, if possible, provide the mentee with psychological support, encouraging self-growth and motivation. Learning process is delivered in different ways and case studies [3,10].

The purpose of training residents with low academic performance is to have a balance between the learning requirements and the individual abilities of the student thus, the department engaged some mentors with experience in psychological research or counseling to support those students with disabilities (language barriers, chronic diseases, students with disabilities).

The purpose of training those residents with outstanding achievements is to orient them to a career as a physician-scientist. The main objectives of such training are to introduce residents to research and promote their academic careers.

In their practice, mentors apply a new approach – an Entrustable Professional Activities (EPA) used in competence-oriented medical education. A component of professional practice that can be entrusted to a sufficiently competent student under supervision: to perform duties under direct supervision in the presence of a mentor, perform duties under indirect supervision with a mentor in a different room with a quick access to it, perform duties with a mentor accessible from a distance, to perform duties without a mentor, to manage others [4,11]. For example, the residents of the first and the second years of training are employed at the clinical sites as resident doctors on duty to supervise healthy full-term newborns from birth to discharge.

The satisfaction of clinical mentors in the quality of training of resident neonatologists was assessed against the knowledge gained in this discipline evaluated by an anonymous questionnaire, which was carried out after the study of compulsory and major disciplines in the period from 2019 to 2022.

Based on the analysis of the study, all respondents admitted that clinical mentors used a variety of mentoring types. Most of the students highlighted the high level of professionalism of the clinical mentors, who in the course of training guided them to the practical application of the knowledge gained, navigated them to apply the studied material in the professional activities, falling short of clinical cases (at the supervision, the center of practical skills). 92.6% of respondents notice that clinical mentors are interested in the success of students, respectful and at the same time demanding in the learning process. The result of the mentoring is getting a highly qualified specialist and a comprehensively developed personality

with decent morals and cultural values. The assessment results demonstrate a consistently positive trend in mastering the residency curriculum in the specialty 7R011114 Neonatology. The average score for an independent assessment in the recent years showed a total of 98.5 points in tests, 97.5 in OSCE with the overall score at 98 points.

However, it should be understood that mentoring takes time, effort and the desire to transfer knowledge acquired by the mentor. Thanks to the mentoring system, the mentor also has the opportunity to get to know a new person as closely as possible. For future managers, this is a good experience in the field and in developing communication skills. They find an individual approach to completely different employees while getting skills in negotiation and other ways how to interest and motivate residents. Mentors can confidently call themselves specialists as they constantly have to repeat information and improve their knowledge. At times, it can be difficult for mentors not to give advice or even solve a problem for their students, but they try to help the mentee to weigh the situation in the process of reflection, asking questions, solving challenges and giving feedback to enable them to come to a decision on their own [7,9]. In mentoring, it is important to reveal the potential of students and adhere to the results of training. Ethical principles must be taken into account as confidentiality is of paramount importance. The resident's activities should be constantly evaluated as this is an ongoing process [19].

The mentoring process is based on the following values and principles: equality (treating a mentee as an equal), acceptance of individual differences of students, encouraging opportunities, developing competencies, encouraging cooperation and scientific competencies, searching for new ideas, theories and knowledge, contemplating about past experiences as a key to understanding, reflection and the ability to transfer the acquired knowledge and apply it to new situations [1,12].

Findings

Mentoring is one of the promising practices of professional development for doctors since medicine requires a professional to have practical experience and high skills to ensure the safety of the patient in the process of medical activity. The most promising models in medicine are mentoring and a traditional model of classical mentoring.

The effectiveness of mentoring depends primarily on the personality of the mentor and his or her professional experience as well as on the availability of methodologically justified legal and organizational documents, which are theoretically supported by psychological and pedagogical research.

Effective development of mentoring and experience of foreign countries to prepare a mobile, creative, competitive and highly-qualified doctor is a key component to success in the clinical work of a specialist.

Mentoring is a labor and time-consuming educational process, which is psychologically complex at the same time. It contributes to the successful adaptation of residents, the qualitative mastery of the curriculum, personal professional growth as a future specialist, and requires great endurance,

experience and, most importantly, the desire to do this educational activity.

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