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## OPTIMIZATION OF HUMAN RESOURCES IN GYNECOLOGY: FACTORS INFLUENCING THE TURNOVER OF YOUNG SPECIALISTS

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### Resume:

**Introduction:** There is a shortage of medical personnel all over the world and this trend is only increasing every year. Trends in leaving the medical profession in the modern world are caused by various factors, including the aging of the population, emotional burnout, lack of support and equipment with innovative tackle, and an increase in workload that took place during the coronavirus pandemic. All the above leads to difficulties in retaining medical personnel, respectively, to a decrease in the quality of patient care and pronounced financial difficulties for medical institutions. It is no secret that all over the world, as well as in Kazakhstan, steps are being taken to solve these problems, including ongoing changes in the education system and the use of the latest digital technologies, telemedicine.

**The purpose of the study:** is to evaluate the factors influencing the desire to leave work among young gynecologists.

**Materials and methods:** A cross-sectional study was conducted, in which a telephone interview was conducted with 36 young gynecologists who completed their studies at the expense of a state grant from three to eight years ago. The group of respondents is conditionally divided into those who no longer work in their specialty or are going to change their profession or migrate (15 people – group 1) and those who continue to work in their specialty and will work soon (21 people - group 2). Data processing was carried out using the data analysis package of the Microsoft® Office Excel 365 spreadsheet processor, SPSS IBM Statistics version 26.0 for Windows.

**Results:** Dissatisfaction with the protection of the rights of medical workers increased the chance to leave the profession by 10 times (95% CI:2.1-48.5, p=0.003), stress increased the chance to leave by 5.5 times (95% CI: 1.3-23.7, p=0.018), difficulties with purchasing preferential housing by 5.5 times (95% CI: 1.3-23.7), dissatisfaction with wages increased the chance of leaving the profession by 5.3 times (95% CI:1.2-24.7). These same factors had statistically significant correlations with the desire to leave the profession. The imperfection of the system of financing medical services, the difficulties of working with it and unfair fines, according to respondents, influenced the reluctance to work in public medical institutions.

**Conclusion:** During the interviewing of young obstetrician-gynecologists, a rather unfavorable tendency towards the desire to leave practical healthcare was revealed. Almost a third does not work or does not want to work in the practical healthcare of the Republic of Kazakhstan, while more than half works in the private sector or prefers to go to the private sector. Factors that can be considered when planning personnel policy in medicine for decision makers have been identified.

**Keywords:** Health Personnel, young doctors, Obstetricians, Gynecologists, Gynecology, Personnel Turnover

ГИНЕКОЛОГИЯДАҒЫ КАДРЛЫҚ ПОТЕНЦИАЛДЫ ОҢТАЙЛАНДЫРУ:  
ЖАС МАМАНДАРДЫҢ "ЖҰМАСТАН КЕТУІНЕ" ӘСЕР ЕТЕТІН ФАКТОРЛАР

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### Түйін

**Кіріспе:** Бүкіл әлемде медициналық кадрлардың жетіспеушілігі байқалады және жыл сайын бұл үрдіс тек артып келеді. Қазіргі әлемдегі медициналық кәсіптен кету тенденциялары әр түрлі факторларға байланысты, соның ішінде халықтың қартаюуы, эмоционалды күйзеліс, қолдау мен инновациялық жабдықтармен жабдықтаудың жеткіліксіздігі, коронавирустық пандемия кезінде болған жүктеменің артуы. Жоғарыда айтылғандардың барлығы медициналық персоналды ұстап қалу қиындықтарына, сәйкесінше пациенттерге қызмет көрсету сапасының төмендеуіне және медициналық мекемелер үшін айқын қаржылық қиындықтарға әкеледі. Бүкіл әлемде, сонымен қатар Қазақстан Республикасында, білім беру жүйесінде болып жатқан өзгерістерді және жаңа цифрлық технологияларды, телемедицинаны пайдалануды қоса алғанда, осы проблемаларды шешу үшін қадамдар жасалып жатқаны құпия емес.

**Зерттеудің мақсаты:** Жас гинекологтар арасында жұмыстан кетуіне деген ұмтылысқа әсер ететін факторларды бағалау.

**Материалдар және әдістер:** Жүргізілген көлденең зерттеуде үш жылдан сегіз жылға дейін мемлекеттік грант есебінен оқуын аяқтаған 36 жас гинеколог маманының телефон арқылы сұхбаты алынды. Сауалнамаға қатысқандар тобы шартты түрде мамандығы бойынша жұмыс істемейтіндерге, немесе мамандығын ауыстырғысы келетіндерге, немесе қоныс аударғысы келетіндерге (15 адам - 1 топ) және мамандығы бойынша жұмысын жалғастыратындарға және жақын арада жұмыс істейтіндерге (21 адам - 2 топ) бөлінді. Деректерді өңдеу Windows жүйесіне арналған "Excel 365" Microsoft® Office, "SPSS IBM Statistics version 26.0" кестелік процессордың деректерді талдау пакеті арқылы жүргізілді.

**Нәтижелер:** Медицина қызметкерлерінің құқықтарын қорғауға қанағаттанбау мамандықтан кету мүмкіндігін 10 есеге арттырды (95% СА: 2,1-48,5,  $p=0,003$ ), стресс 5,5 есе 95% СА: 1,3-23,7,  $p=0,018$ ), жеңілдікті тұрғын үй сатып алудағы қиындықтар 5,5 есе (95% СА: 1,3-23,7), жалақыға қанағаттанбау кәсіптен 5,3 есе кету мүмкіндігін арттырды (95% СА:1,2-24,7). Дәл осы факторлар кәсіптен кетуге деген ұмтылыспен статистикалық маңызды корреляциялық байланыстарға ие болды. Медициналық қызметтерді қаржыландыру жүйесінің жетілмегендігі, онымен жұмыс істеудің қиындығы және респонденттердің пікірінше әділетсіз айыппұлдар мемлекеттік медициналық мекемелерде жұмыс істегісі келмеуіне әсер етті.

**Қорытынды:** Жас акушер-гинекологтармен сұхбат барысында практикалық денсаулық сақтаудан кетуге деген қолайсыз тенденция анықталды. Іс жүзінде Қазақстан Республикасында практикалық денсаулық сақтау саласында үштен бірі жұмыс істемейді немесе жұмыс істегісі келмейді, ал жартысынан көбі жеке секторда жұмыс істейді немесе жеке секторға кетуді жөн көреді. Шешім қабылдаушылар үшін медицинадағы кадрлық саясатты жоспарлау кезінде ескерілуі мүмкін факторлар анықталды.

**Түйінді сөздер:** медициналық кадрлар, жас дәрігерлер, акушер-гинекологтар, гинекология, кадрлардың ауысуы

#### ОПТИМИЗАЦИЯ КАДРОВОГО ПОТЕНЦИАЛА В ГИНЕКОЛОГИИ: ФАКТОРЫ, ВЛИЯЮЩИЕ НА «ТЕКУЧЕСТЬ» МОЛОДЫХ СПЕЦИАЛИСТОВ

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#### Резюме

**Введение:** Во всем мире отмечается нехватка медицинских кадров, и с каждым годом данная тенденция только увеличивается. Тенденции ухода из медицинской профессии в современном мире вызваны различными факторами, включая старение населения, эмоциональное выгорание, недостаток поддержки и оснащение инновационным оборудованием, увеличение нагрузки, которое имело место быть во время пандемии коронавируса. Все перечисленное приводит к трудностям удержания медицинского персонала, соответственно к снижению качества обслуживания пациентов и ярко выраженным финансовым затруднениям для медицинских учреждений. Не секрет, что во всем мире, как и в Республике Казахстан предпринимаются шаги для решения этих проблем, включая происходящие изменения в системе образования и использование новейших цифровых технологий, телемедицину.

**Цель исследования:** оценить факторы, влияющие на желание уйти с работы среди молодых врачей гинекологов.

**Материалы и методы:** Проведено поперечное исследование, в котором проведено телефонное интервью 36 молодых специалистов – гинекологов, закончивших обучение за счет государственного гранта от трех до восьми лет назад. Группа опрошенных условно разделена на тех, кто уже не работает по специальности, либо собирается сменить профессию или мигрировать (15 человек – группа 1) и тех, кто продолжает работать по специальности и в ближайшее время будет работать (21 человек – группа 2). Обработка данных проводилась с помощью пакета анализа данных табличного процессора «Excel 365» Microsoft® Office, «SPSS IBM Statistics version 26,0» для Windows.

**Результаты:** Неудовлетворенность защитой прав медицинских работников, увеличивала шанс уйти из профессии в 10 раз (95% ДИ:2,1-48,5,  $p=0,003$ ), стресс увеличивал шанс уйти в 5,5 раз 95% ДИ: 1,3-23,7,  $p=0,018$ ), сложности с приобретением льготного жилья в 5,5 раз (95% ДИ: 1,3-23,7), неудовлетворенность оплатой труда повышало шанс уйти из профессии в 5,3 раза (95%ДИ:1,2-24,7). Эти же факторы имели статистически значимые корреляционные связи с желанием уйти из профессии. Несовершенство системы финансирования медицинских услуг, сложности работы с ней и несправедливые штрафы по мнению респондентов влияли на нежелание работать в государственных медицинских учреждениях.

**Заключение:** В ходе интервьюирования молодых врачей акушеров-гинекологов была выявлена достаточно неблагоприятная тенденция к желанию уйти из практического здравоохранения. Практически треть не работает или не желает работать в практическом здравоохранении Республики Казахстан, тогда как более половины работает в частном секторе или предпочитает уйти в частный сектор. Были выявлены факторы, которые могут учитываться при планировании кадровой политики в медицине для лиц, принимающих решения.

**Ключевые слова:** медицинские кадры, молодые врачи, акушеры-гинекологи, гинекология, текучесть кадров.

**Introduction.** There is a shortage of medical personnel worldwide, and this trend only increases every year [1]. In the reports of the World Health Organization (WHO), there is concern about this issue, disappointing data even in developed countries can lead to the fact that millions of people will remain without access to medical care [2,3]. The need for medical personnel is only growing due to the growth and number of the population, as well as the increase in the prevalence of chronic diseases, due to the aging of the population [4], while young people consider this profession unattractive, due to the duration and complexity of training, as well as the prospect of low and high wages responsibility [5-8].

The following are the main reasons for staff turnover today: the aging of the population, emotional burnout due to the number of hours of work, the severity of work and responsibility, the complexity of training, uneven distribution of medical workers (in the city-rural ratio). The pandemic of the corona virus infection revealed all the shortcomings of the personnel

policy in many countries and added new reasons for the decision to leave the medical field: stress, fear of infection, lack of protective equipment, medicines and equipment, increased burden on medical personnel, fear for loved ones [9-11]. It was also revealed that there is a lack of support from colleagues and management, complaints from patients [12-15]. All this leads to difficulties in retaining medical personnel, increasing the burden on existing personnel, problems with the quality of patient care, financial problems for medical institutions, where the lack of personnel can reduce the quality of services and the ability to compete. In the world, attempts are being made to influence personnel policy by means of changes in the education system, the use of the latest technologies such as telemedicine, which expands the coverage of medical services, programs that allow predicting the need for medical personnel, and others.

In Kazakhstan, most students receive medical education at the expense of state grants. According to the contract, students must work at least three years after graduating from university, which ensures a high percentage of employment and partially eliminates the problem of shortage of medical personnel [15]. However, there are practically no studies devoted to the priority of work after three years of work and factors affecting the desire to work in the practical health care of our Republic. Taking into account the need to reduce maternal and child mortality, we need highly qualified medical personnel in the field of obstetric and gynecological care. In this regard, we consider it necessary to study factors that can affect the turnover of young personnel in obstetrics and gynecology as a basis for making managerial decisions when planning personnel policy.

**The purpose of the study.** Evaluate the factors that influence the desire to leave work among young gynecologists.

**Materials and methods.** A cross-sectional study was conducted, in which a telephone interview was conducted with 36 young specialists - gynecologists who completed training three to eight years ago.

**Inclusion criteria:** young specialists who completed training in the specialty of obstetrics and gynecology no later than 2020 and no earlier than 2016.

**Exclusion criteria:** specialists who graduated after 2021 or earlier in 2016, lack consent to participate in the study.

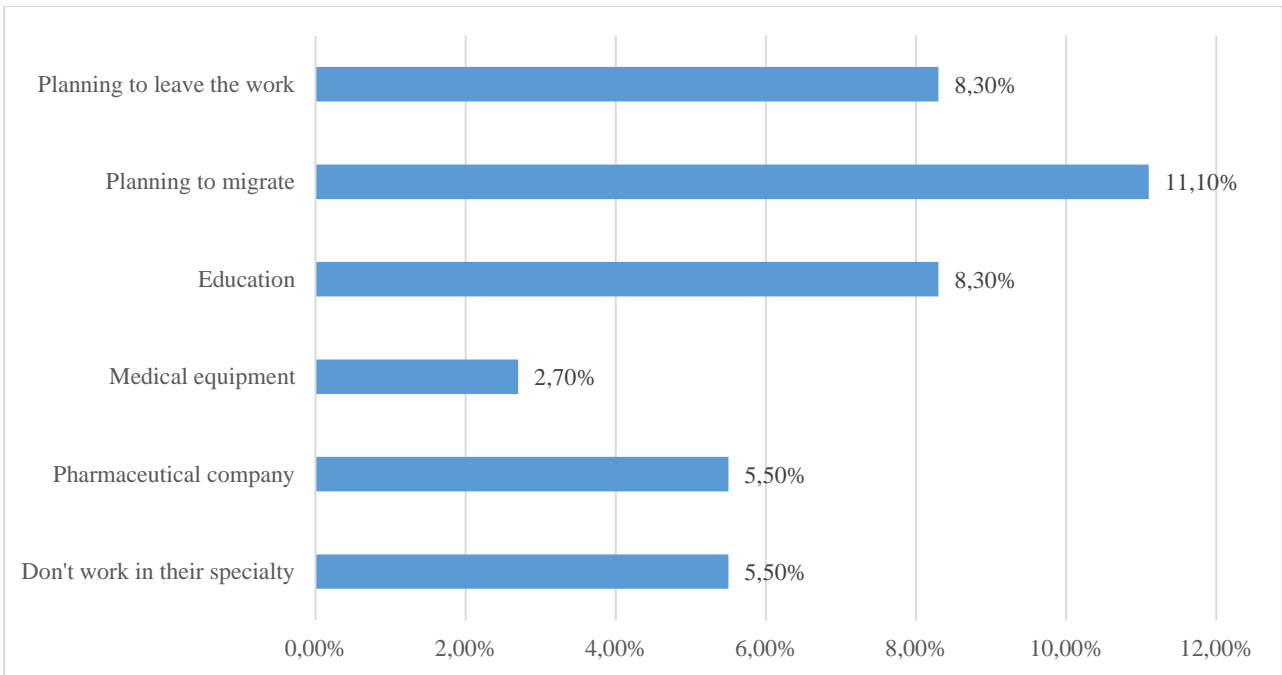
Information received on request through information letters in medical organizations. After filling out the informed voluntary consent to participate in the research, the respondents were asked questions about the place, working conditions, desire to work in health care of the Republic of Kazakhstan, problems and priorities. The group of respondents is conditionally divided into those who no longer work in their specialty, or are going to change their profession or migrate (15 people - group 1) and those who continue to work in their specialty and will work in the near future (21 people - group 2).

**Statistical analysis.** To describe the quantitative data, the mean value ( $M$ )  $\pm$  standard deviation ( $SD$ ), as well as the median ( $Me$ ) and the interquartile range ( $IQR$ ) were used ( $Q1-Q3$ ); nominal indicators were described by absolute and relative frequencies (%). Reliability of differences in nominal indicators was performed using Pearson's  $X^2$  test and Fisher's exact test. Correlation analysis was performed using Spearman's rank correlation test. At the same time, for all types of data, values of  $P$ -value less than 0.05 were designated as statistically significant.

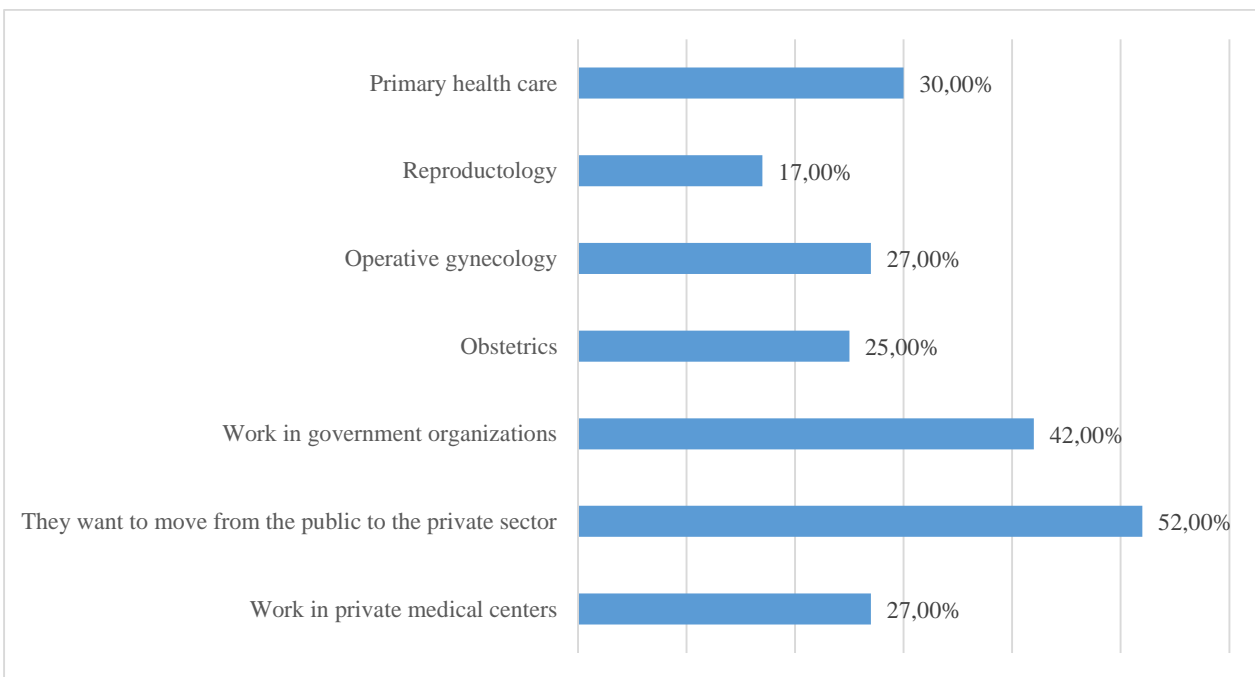
Data processing was carried out using the data analysis package of the table processor "Excel 365" Microsoft® Office, "SPSS IBM Statistics version 26.0" for Windows.

**Results and discussion.** The group did not statistically differ from each other in terms of median age and length of service, which amounted to: 1-  $Me$  ( $Q1-Q3$ ): 32(2); 2 -  $Me$  ( $Q1-Q3$ ): 33(1); для стажа работы 1-  $Me$  ( $Q1-Q3$ ): 5(0); 2 -  $Me$  ( $Q1-Q3$ ): 5 (2). All respondents received education at the bachelor's level, internship and residency at the expense of the state grant.

Of all the respondents, two people (5.5%) work in medical specialties, two people work in a pharmaceutical company (5.5%), one in the sale of medical equipment (2.7%), three work in the field of education (8, 3%), four people intend to work by specialty in other countries (11.1%), three people want to leave medical practice (8.3%) (Figure 1). 10 people work in private medical centers (27%), 15 people (42%) work in state medical organizations, 9 people work in obstetrics (25%), 10 people (27%) in operative gynecology, 6 people in reproductive medicine (17 %), 11 people (30%) conduct outpatient reception (Figure 2). 11 specialists (52%) want to move from the public sector to the private sector. The reasons for the desire to work in the private sector were noted: the complexity of working with services paid from the funds of the social health insurance fund (SHIF) and the guaranteed amount of free medical assistance (GAFMA) 63% (7 people) increases the chance of moving to the private sector by 5 times ( $OR$ : 5, 95%  $CI$ : (0.9-31), non-compliance with state tariffs for medical services (low tariff) - 36% (4 people,  $OR$ : 1.3; 95%  $CI$  (0.2-8.2)), frequent complaints of patients 63% (7 people,  $OR$ : 7; 95%  $CI$  (0.9-50.1)), unfair penalties, imposed by the Obligatory Medical Insurance Fund (OMIF) (54% - 6 people,  $OR$ : 2.8; 95%  $CI$  (0.4-16)).



**Figure 1** – The number of respondents who either work in practical health care of the Republic of Kazakhstan or are going to work



**Figure 2** – Distribution of respondents by specialty in obstetrics and gynecology of private and state organizations

During the interview, the following factors that were most frequently noted by the respondents, which influenced the intention to leave practical health care, were revealed: satisfaction with work pay statistically significantly ( $p=0.026$ ) increased the chance of wanting to leave practical medicine by 5.3 times (95% CI: 1,2-24.7), stress in 5.5 times (95% CI: 1.3-23.7,  $p=0.018$ ), dissatisfaction protection of the rights of medical workers in 10 times (95% CI: 2.1-48.5,  $p=0.003$ ), (table 1.2). Many respondents especially noted the problem with housing, which increased the chance of leaving the profession by 5.5 times (95% CI: 1.3-23.7), the difference is statistically significant ( $p=0.018$ ). A quote from an anonymous survey conducted among obstetrician-gynecologists: "The length and complexity of training does not give the opportunity to earn a living at the same time, while the small salary of a young specialist. The city polyclinic is not an institution that gives me the right to participate in the tender for preferential lending".

**Table 1** – Factors affecting the turnover of young personnel

Factors	Group 1		Group 2		OR (CI)	p-value	Effect size
	n	%	n	%			
Dissatisfaction with payment of work	12	80	9	43	5,3 (1,2-24,7)	0,026*	0,371 medium

Patients' complaints	10	66	8	38	-	-	-
Stress	11	73	7	33	5,5 (1,3-23,7)	0,018*	0,394 medium
Lack of management support	8	53	5	23	-	-	-
The imperfect system of MSHI and GAFMA	5	33	5	23	1,6 (0,4-6,9)	0,53*	0,105 small
Dissatisfaction with the protection of medical workers rights	12	80	6	29	10 (2,1-48,5)	0,003	0,507 Relatively strong
Difficulty in obtaining housing	11	73	7	33	5,5 (1,3-23,7)	0,018	0,394 medium

Also, 4 factors have statistically significant direct correlations with the intention to leave: dissatisfaction with the payment of work ( $r_{xy}=0.678$  - the connection is noticeable according to the Cheddock scale;  $p<0.001$ ), dissatisfaction with the protection of medical workers rights ( $r_{xy}=0.6783$ , the connection is high according to the Cheddock scale;  $p<0.001$ ), with stress ( $r_{xy}=0.485$  - the relationship is moderate according to the Cheddock scale;  $p<0.001$ ), with difficulties in obtaining housing ( $r_{xy}=0.831$  - the relationship is high according to the Cheddock scale;  $p<0.001$ ).

**Table 2** - Correlation between factors and turnover of medical personnel

Factors	Genital prolapse degree				Direction of Relationship	p-value
	Spearman Correlation (SRC)	Rank Criterion	Chaddock Relationship Strength Assessment	Scale		
Dissatisfaction with payment of work	0,678		Notable		Direct	<0,001
Dissatisfaction with the protection of medical workers rights	0,783		High		Direct	<0,001
Difficulty in obtaining housing	0,831		High		Direct	<0,001
Stress	0,485		Moderate		Direct	<0,001

The obtained data show that a significant proportion of young specialists either leave the profession or consider migrating to other countries a few years after graduating from university. The main reasons are dissatisfaction with wages, protection of health workers' rights, high stress levels, housing difficulties, and fear of legal liability. These results are consistent with the findings of foreign studies [12–15], which also note the impact of low social support and professional risks on doctors' desire to continue working in the healthcare system. The identified problems require the introduction of more effective measures to support young specialists, which will reduce their professional turnover.

Conclusion. As a result of interviewing young obstetricians and gynecologists, it was revealed that there is a noticeable trend towards leaving practice in public healthcare. It is alarming that almost a third of respondents either do not work in this area or prefer to move from the public to the private sector. More than half of young specialists, in fact, already work in private clinics or plan to move there. The factors identified by us can be successfully used to develop strategies (models) for improving personnel policy in the obstetrics and gynecology field to retain young specialists and increase their job satisfaction. The heads of medical organizations are recommended to pay attention to and take into account the following aspects when planning personnel policy: improving working conditions, providing opportunities for professional growth, introducing motivational programs and bonuses, and creating a favorable corporate environment. We believe that attention to these aspects will lead to a decrease in staff turnover, ensuring stability and efficiency of work, in general, of the medical organization.

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