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CHALLENGES IN INTERNSHIP PRACTICAL TRAINING

Abstract. The demanding landscape of the healthcare job market compels young doctors during their internship to acquire all necessary competencies and be prepared for intense competition to secure respectable employment. This is intricately tied to the substantial reform of the educational component and a focus on acquiring relevant evidence-based knowledge and skills. In Ukraine, the training period for medical interns in specialized departments has been shortened, with the practical training aspect now fully delegated to internship bases. The provisions regarding internship and the criteria of the National Health Service of Ukraine (NHSU) package for "Ensuring the human resource potential of the healthcare system through the involvement of medical interns" concerning the suitability of medical facilities for internship requirements remain at a low level, given the current state of affairs preventing substantial enhancement. In response to these changes, higher medical education institutions have initiated the establishment of university clinics, yet this has led to significant legal and financial barriers. At this stage, we have examined the progress of intern doctors in acquiring essential skills during the internship period and their self-assessment levels of professional competencies, aiming to identify obstacles faced by future specialists. Objective: to analyze the information provided by junior doctors in the field of General Practice and Family Medicine and assess the quality of their practical training at internship bases, in order to develop effective mechanisms and strategies to enhance the training of family doctors. Materials and Methods. Following the acquisition of the specialist doctor

certificate, 27 respondents specializing in "General Practice – Family Medicine" who completed a two-year internship anonymously participated in a survey. The questionnaire comprised 14 questions. Likert scale responses were employed: unsatisfactory, satisfactory, mediocre, good, excellent for quality, and did not perform, 1-5, 6-10, 11-30, more than 30 for the quantity of skills performed within the specialty. Results and Discussion. According to the obtained results, the average self-assessment score of young doctors' practical training proved to be lower than the scores achieved during certification. Skills such as "Pap smear", "intraocular pressure measurement" and "spirometry/peakflowmetry" remained inadequately practiced. These skills require equipment (gynecological chair, ocular tonometer, spirometer, or peak flow meter). The factors leading to this outcome require further analysis and investigation involving the supervisors of intern doctors' training bases. Conclusions. Young specialists are not inclined to overestimate their own achievements. Only 18% of the respondents rated the quality of practical skills training at internship bases as excellent. The quantitative measurement of practiced practical skills during the internship period does not meet the needs of future specialists. Predictive factors for junior doctors' self-assessment of practical training levels were identified as follows: lack of willingness to change the internship base, the number of performed otoscopies, and the presence of rotation cycles at the internship base.

Keywords: internship bases, medical interns, general practice – family medicine, practical training, self-assessment.

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ВИКЛИКИ ПРАКТИЧНОЇ ПІДГОТОВКИ В ІНТЕРНАТУРІ

Анотація. Високі вимоги на ринку праці охорони здоров’я змушують молодих лікарів на етапі інтернатури опановувати всі необхідні компетенції та

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бути готовим до умов жорсткої конкуренції заради гідного працевлаштування. Це нерозривно пов'язано з масштабним реформуванням освітянського компоненту та концентрацією на отриманні релевантних знань та вмінь, заснованих на доказах. В Україні запровадили скорочення строків підготовки лікарів-інтернів на профільних кафедрах, а забезпечення відпрацювання практичного компоненту в повному обсязі передано на бази стажування. Положення про інтернатуру та критерії пакету НСЗУ «Забезпечення кадрового потенціалу системи охорони здоров'я, шляхом організації надання медичної допомоги із залученням лікарів-інтернів» щодо відповідності медичного закладу вимогам бази стажування залишаються на низькому рівні, оскільки нинішній стан справ не дозволяє зробити його більш високим. Навздогін цим змінам, заклади вищої медичної освіти почали створювати університетські клініки, проте це породило велику кількість юридичних та фінансових бар'єрів. На даному етапі ми проаналізували стан відпрацювання лікарями-інтернами базових навичок за період інтернатури та рівень самооцінки щодо їх володіння професійними компетенціями, аби виявити бар'єри, що виникають на шляху майбутнього спеціаліста. Мета: проаналізувати інформацію, надану лікарями-інтернами за фахом ЗПСМ та оцінити якість їх практичної підготовки на базах стажування, що дозволить розробити дієві механізми та сценарії покращення підготовки сімейних лікарів. Матеріали і методи. Після отримання сертифікату лікаря-спеціаліста пройшли анонімне анкетування 27 респондентів за фахом «Загальна практика – сімейна медицина», які закінчили дворічне навчання в інтернатурі. Опитник містив 14 запитань. Для відповідей використовувалась шкала Лайкерта: незадовільно, задовільно, посередньо, добре, відмінно щодо якості та не проводив/ла, 1-5, 6-10, 11-30, більше 30 щодо кількості виконаних навичок за спеціальністю. Результати і обговорення. Згідно з отриманими результатами середній бал самооцінки практичної підготовки молодих лікарів виявився нижчим за отримані за час атестації оцінки. Недостатньо відпрацьованими залишилися навички «взяття мазків у жінки на онкоцитологію», «вимірювання внутрішньоочного тиску» та «проведення спірометрії/пікфлуометрії». Тобто ті навички, які потребують обладнання (гінекологічне крісло, очний тонометр, спірометр чи пікфлуометр). Фактори, які призвели до цього, потребують подальшого аналізу та вивчення з залученням керівників баз стажування лікарів-інтернів. Висновки. Молоді спеціалісти не схильні завищувати власні досягнення. Тільки 18% респондентів оцінили рівень якості навчання практичним навичкам на базах стажування як відмінний. Кількісний вимір відпрацьованих практичних навичок за час перебування на базах стажування не задовольняє потреби майбутніх спеціалістів. Прогностичними факторами самооцінки лікарів-інтернів щодо рівня практичної підготовки виявилися: відсутність бажання змінити базу стажування, кількість проведених отоскопій та наявність ротації циклів на базі стажування.

Ключові слова: бази стажування, лікарі-інтерни, загальна практика – сімейна медицина, практична підготовка, самооцінка.

Introduction. In order to bridge the gaps between the job market and the educational environment, as well as to enhance the competitiveness of young professionals, the competency-based approach is increasingly being adopted in the educational process. [1] Unlike the traditional approach, this direction focuses not only on acquiring professional knowledge and skills but also aims to meet the demands of the modern world by fostering critical thinking and the ability to act in the face of potential or existing risks. [2] Competencies encompass clear, measurable, transferable learning objectives that enable learners to understand the expectations placed upon them in the future. Unlike a fragmented set of knowledge formed in conditions of insufficient systematization, competencies can be objectively assessed. [3]

Within such a learning framework, self-assessment is not considered sufficient to validate the quality of acquired professional competencies, yet it reflects the level of satisfaction and has the potential to enhance the assimilation of new information. [4,5] Given the context of shortened training periods for medical interns in specialized departments and the transfer of practical education components to internship bases, studying and analyzing the progress of basic skills acquisition during the internship period and the self-assessment of young doctors regarding their professional competencies will help identify barriers that emerge on the path of future qualified specialists towards self-improvement. [6]

Objective: to analyze the information provided by medical interns specializing in General Practice – Family Medicine (GP/FM) and evaluate the quality of their practical training at internship bases, aiming to develop effective mechanisms and scenarios for improving the preparation of family doctors.

Materials and Methods. After obtaining the specialist doctor certificate, an anonymous survey was conducted with 27 doctors specializing in General Practice – Family Medicine who completed a two-year internship. The questionnaire consisted of 14 questions, including possibilities for open-ended responses, 11 closed-ended questions, and 3 open-ended questions. The creation of the custom questionnaire was carried out within a focus group of instructors from the Department of Family Medicine at the Faculty of Postgraduate Education and Propaedeutics of Internal Medicine at Dnipro State Medical University. The questions pertained to self-assessment of the quality of practical skills training during the period spent at the remote bases.

According to the training program, medical interns underwent a 2-year internship in GP/FM, including 10 months at the department, 12 months at the internship bases, and 1 month of leave. Likert scale responses were used for answers: unsatisfactory, satisfactory, mediocre, good, excellent for quality, and did not perform, 1-5, 6-10, 11-30, more than 30 times for the quantity of skills performed within the specialty.

For the purpose of comparing self-assessment of basic competency mastery with the objective level, we utilized the database of assessments obtained by medical

interns during certification for the title of "specialist doctor" in the field of General Practice – Family Medicine.

Statistical data analysis and presentation of results were carried out using Microsoft Excel and SPSS v29 trial. The critical threshold for statistical significance was assessed at the level of $p \leq 0.05$.

Results and Discussion. The actual study involved 3 male doctors (11%) and 24 female doctors (89%). The average age of survey participants was 25 years. Responses from the respondents revealed that 26 participants (96%) had the opportunity and conditions to independently examine and treat patients during their training at internship bases, while 1 junior doctor did not have such an opportunity (4%).

The average level of acquired preparation, rated on a scale from "unsatisfactory" - 1 point to "excellent" - 5 points, was evaluated by young professionals at 3.85 (SD = 0.93). Importantly, none of the survey participants considered their level of practical training to be unsatisfactory. To obtain more objective information, achieved through the comparison of data regarding the quality of the professional component from different sources, we conducted a comparison between the self-assessment of family doctors and the assessments given by medical interns during certification for the title of "specialist doctor". The average certification score for practical skill performance according to state data was 4.18 (SD = 0.47), and was significantly higher than the self-assessment score of junior family doctors (Figure 1).

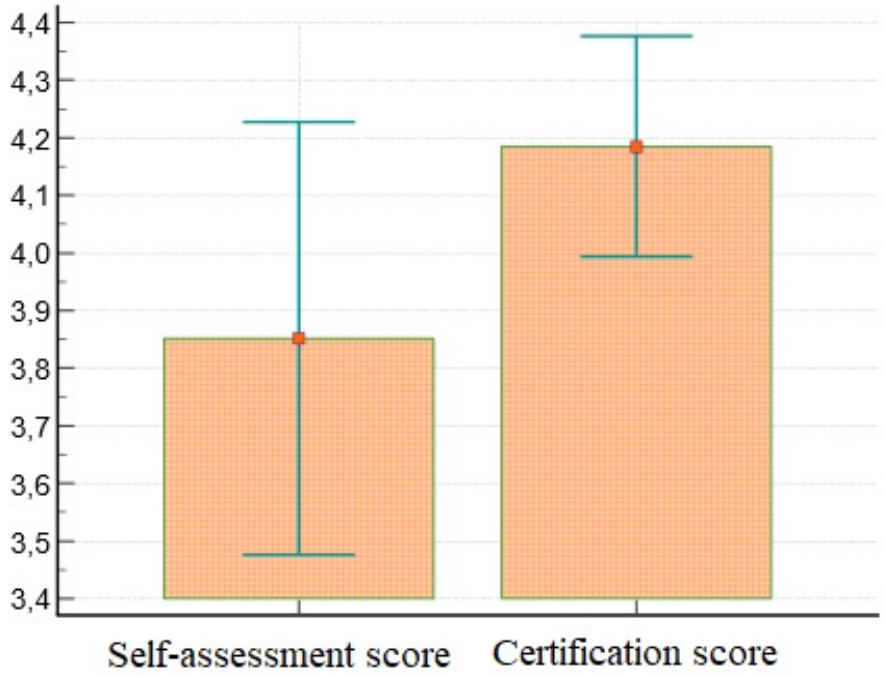
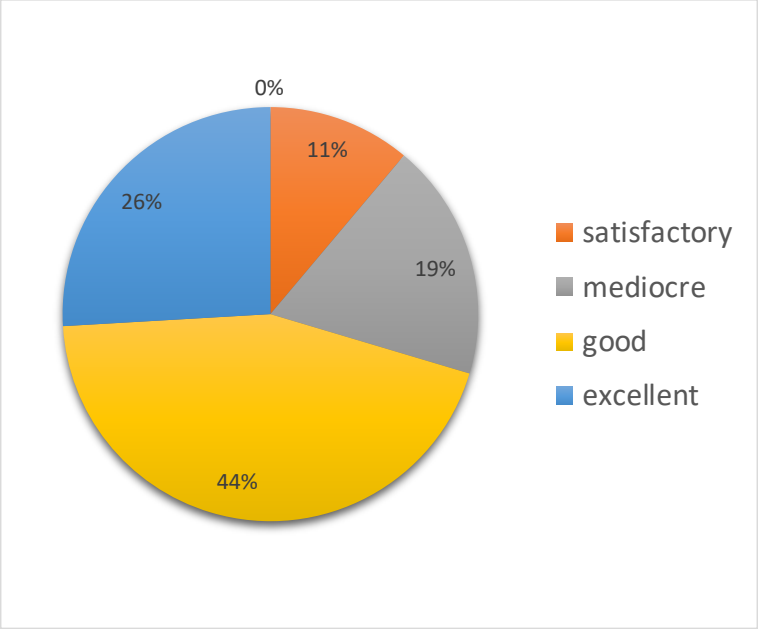


Fig. 1. *Comparison of average self-assessment scores of practical skill levels and scores obtained in certification for practical skill demonstration (95% CI for the mean)*

Diagram 1

Self-assessment of practical training level by junior doctors specializing in "General Practice – Family Medicine"

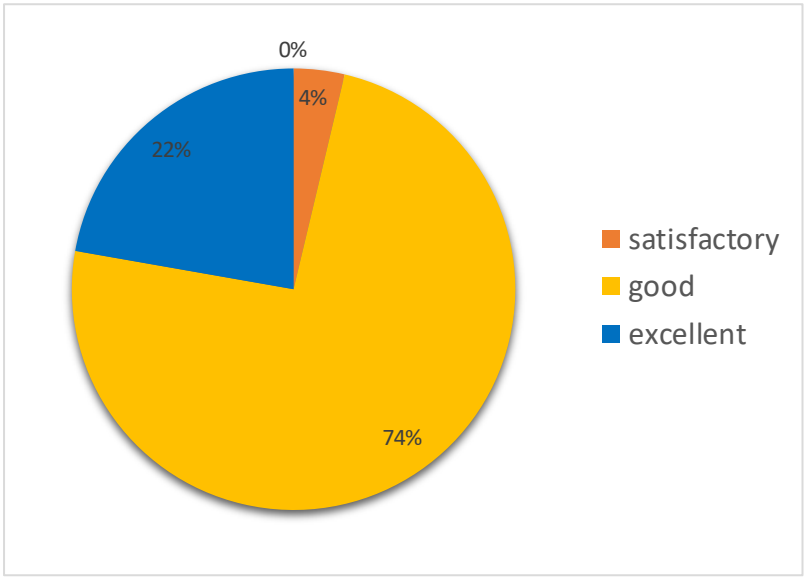


In conducting a correlation analysis between the score for demonstrating practical skills during certification and the self-assessment score of practical training, statistically significant relationships were not identified (r = 0.5667). The detailed breakdown of results is presented in Diagram 1.

The distribution of scores obtained by medical interns during certification for the title of "specialist doctor" is presented in Diagram 2.

Diagram 2

The scores obtained by medical interns during certification for the title of "specialist doctor"



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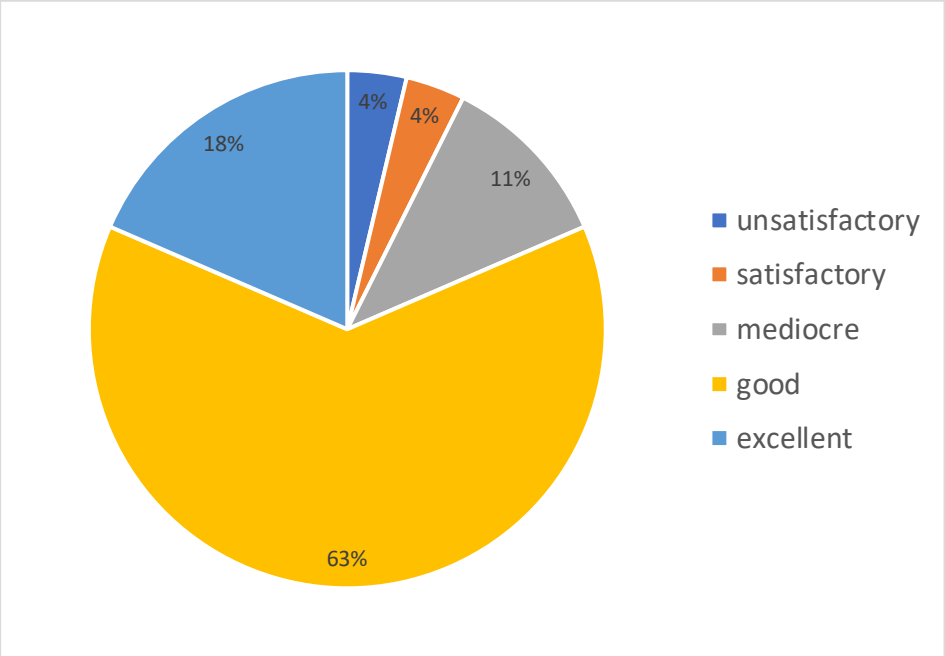
The average level of practical skills training quality at internship bases was 3.88 (SD = 0.87), which corresponded to the range between "mediocre" and "good" (Diagram 3).

Diagram 3

The level of quality in practical skills training at the internship bases for medical interns

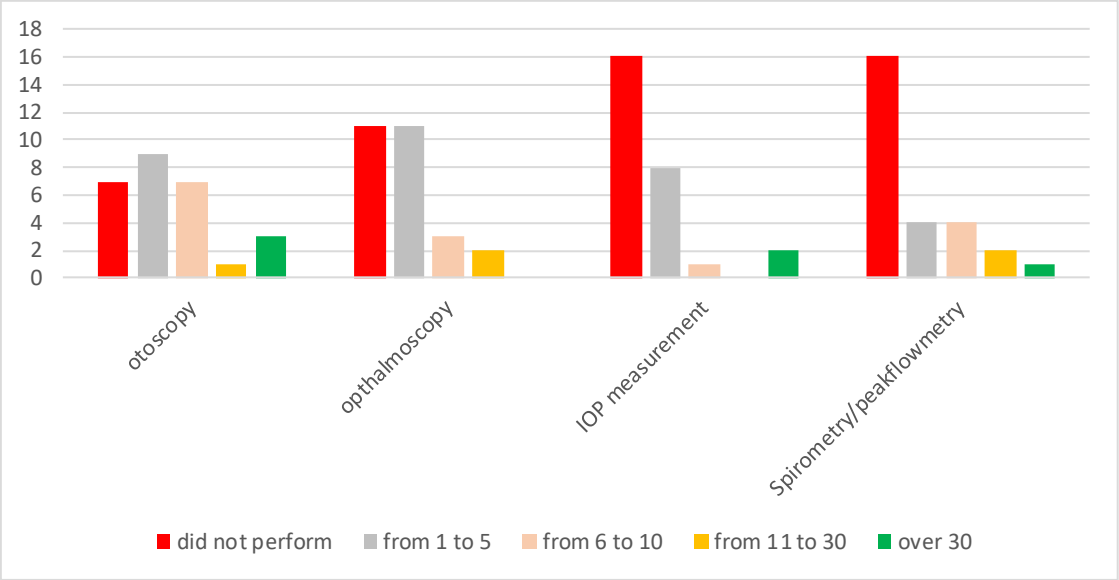


The next section of the survey was dedicated to the number of core competency practical skills performed at the internship bases. (Table 1)

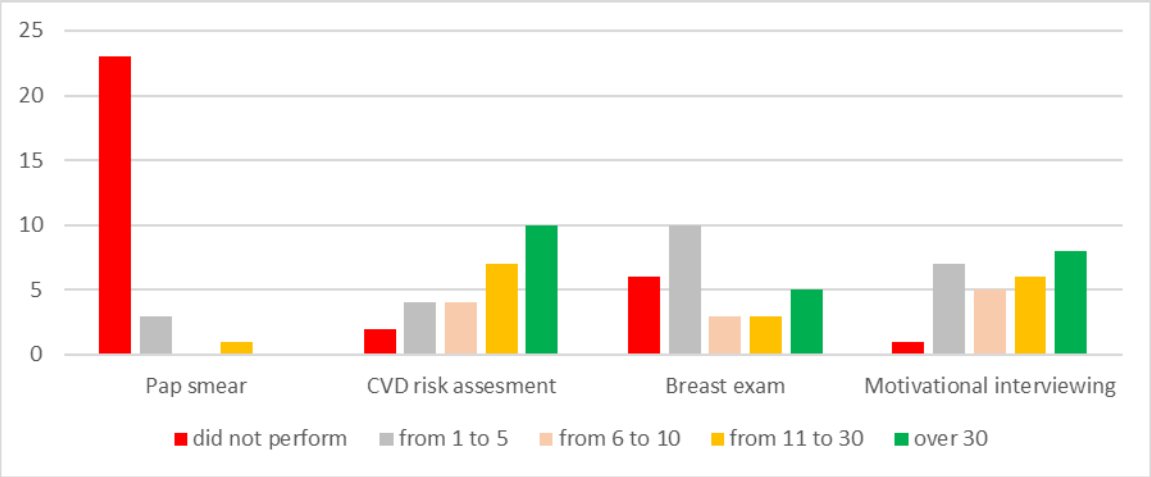
Table 1

Average score of competency practical skills performed at the internship bases, where 1 point – did not perform, 5 – performed more than 30 times

Practical skill	Average score	SD
Otoscopy	2,41	1,22
Ophthalmoscopy	1,85	0,89
Measurement of intraocular pressure (IOP)	1,67	1,09
Spirometry/peakflowmetry	1,81	1,15
Pap smear	1,22	0,63
CVD risk assessment	3,70	1,30
Breast exam	2,67	1,41
Motivational interviewing	3,48	1,26



***Graph 1**. Number of competency practical skills performed by medical interns at the internship bases (Part 1)*



***Graph 2.** Number of competency practical skills performed by medical interns at the internship bases (Part 2)*

According to our data, the skill of "Pap smear", "IOP measurement" and "spirometry/peakflowmetry" remained insufficiently practiced. These skills require equipment (gynecological chair, ocular tonometer, spirometer or peak flow meter). The factors contributing to this need further analysis and investigation involving the engagement of the supervisors at the internship bases.

Note: in our opinion, this might be related to patients being referred to specialized practitioners in other institutions for these procedures, the need for specific training equipment, or the interns of General Practice – Family Medicine not being able to perform these practical skills at the internship bases.

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The next stage of the survey was aimed at identifying barriers that existed during the practice of skills at the internship bases. The respondents' answers were distributed as follows:

- Lack of necessary equipment at the internship base – 55%
- Medical staff at the internship base do not perform most of the skills – 52%
- Lack of quality control for the execution of practical skills – 22%
- Lack of motivation among the medical staff at the internship base to teach interns – 19%
- Personal factors of the intern (laziness, lack of motivation, etc.) – 7%
- Other options:

A. performed the duties of a nurse – 4%

B. doctors do not have time to teach for some reason – 4%

It should be noted that medical interns had the opportunity to select multiple answers and provide their own options. An interesting finding during the discussion of barriers was that over half of the respondents indicated the lack of necessary equipment, even though internship bases are expected to be equipped according to the equipment list. Perhaps, the medical staff at the internship bases themselves do not use it, reserving it for checking purposes in an "unused" state. Alternatively, the healthcare facilities that have been designated as internship bases may require inspections and additional equipment due to excessive load on the equipment, which should be used not only by the specialist who received it, but also by the medical interns to practice their practical skills.

In response to the closed question, "Did you have a desire to change your internship base?" the majority, 85%, did not have such a desire, but 4 participants (15%) provided an affirmative response. Among the reasons for this desire were: "unfriendly attitude of the outpatient clinic head towards the medical intern as a specialist"; "poor treatment"; "no one wants to teach"; "long distance from home to the internship base."

An essential component of training within the framework of the remote part of the internship is the rotation of different microcycles, allowing medical interns to gain experience from specialists in related fields and practice skills within their own professional competencies. According to respondents' answers, cycle rotation at the internship bases was conducted in only 52% of cases (14 respondents).

The next stage of the study involved searching for correlations among different questionnaire results.

Table 2

Correlation matrix of connections between respondents' answers

Indicator	Level of practical training	The level of quality of teaching practical skills
The level of quality of teaching practical skills	0,571**	X
Otoscopy	0,637**	0,457*
Ophthalmoscopy	0,465*	0,502**
IOP measurement	0,207	0,194
Spirometry/peakflowmetry	0,387*	0,309
Pap smear	0,246	0,314
CVD risk assesment	0,392*	0,232
Breast exam	0,328	0,120
Motivational interviewing	0,472*	0,217
Desire to change the internship base	-0,382*	-0,424**
Rotation of microcycles	0,404*	0,217

*- $p<0.05$, **- $p<0.001$

Thus, a higher self-assessment of the level of practical training of medical interns is associated with a higher assessment of the quality of practical skills training at the internship base, a greater number of performed otoscopies, ophthalmoscopies, spirometries, CVD risk assessments, motivational interviewing, and the presence of cycle rotation. On the other hand, the desire to change the internship base is associated with lower values of self-assessment of the level of practical training.

The final stage of the study involved conducting multiple regression using a stepwise method with the exclusion of statistically insignificant variables. We decided to investigate which predictors specifically influence the self-assessment of the level of practical training of medical interns (Table 3).

Table 3

Main indicators of the regression model

Independent variables	Coefficient	Standard error	t	P
Constant	2,9048			
Lack of desire to change the training base	0,9008	0,2296	3,924	0,0007
Otoscopy	0,3948	0,06001	6,579	<0,0001
Cycle rotation	0,2722	0,1308	2,081	0,0487

In this manner, it can be observed that the predictive factors of significance in shaping self-assessment regarding the level of practical skills proficiency among junior doctors encompassed the absence of a desire to alter the internship base, the number of otoscopic examinations conducted, and the presence of cycle rotations within the internship base. The proportion of variance covered by this regression model amounted to R2 = 0.8281. Hence, while concentrating on the training of future specialists, it is imperative not to overlook the factors that might discriminate against medical interns within the working environment, giving rise to additional barriers in the pursuit of knowledge, limiting their rights in the realm of acquiring diverse experiences, and hampering their ability to fully execute the internship program.

The actual investigation does entail certain cognitive biases from respondents, yet concurrently reflects the viewpoints of stakeholders concerning the acquisition of foundational practical skills within the framework of internship bases.

Conclusions:

1. Each quarter of medical interns assessed their level of practical skills as excellent, whereas during certification, such a level was demonstrated by 22% (every fifth). Therefore, it can be deduced that young specialists do not overestimate their own achievements.
2. Only 18% of respondents appraised the quality of practical skills training at internship bases as excellent. The quantitative assessment of practiced practical skills during the internship period does not meet the needs of prospective specialists.
3. Predictive factors influencing the self-assessment of medical interns regarding their level of practical preparation were identified as follows: the absence of a desire to alter the internship base with p=0.0007, the number of conducted otoscopic examinations with p<0.0001, and the cycle rotations within the internship base with p=0.0487, forming an R2 = 0.8281 in the regression model.

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