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ORGANISATIONAL AND STATISTICAL ANALYSIS OF THE PERSONNEL AND QUALIFICATION STRUCTURE OF THE OBSTETRIC AND GYNAECOLOGICAL SERVICE IN UKRAINE

The aim of the study is to assess the dynamics, structure and regional characteristics of the personnel and qualifications of the obstetric and gynaecological service in Ukraine in 2015–2024.

Materials and Methods. The study uses official statistical data on the number of obstetricians and gynaecologists in the regions of Ukraine, as well as their distribution by qualification categories (higher, I, II). Research methods: statistical, analytical, comparative, structural and organisational-management analysis. An assessment was made of the dynamics of absolute indicators, the specific weight of qualification categories and regional personnel distribution.

Results and Discussion. A steady trend towards a decrease in the total number of obstetricians-gynaecologists in most regions of Ukraine during the study period was established. At the same time, a decrease in the proportion of doctors with the highest qualification category was noted, which may indicate a degradation of human resources and the ageing of professional staff. Regional analysis revealed significant disparities between regions, creating inequality in access to specialised care for women. The results obtained underscore the need to review personnel policy and the postgraduate education system.

Conclusions. Between 2015 and 2024, the number of obstetricians and gynaecologists in Ukraine fell from 11,650 to 9,311, a decrease of 20.1 %. During this period, the number of doctors with the first qualification category decreased by 49.9 %, with the second category – by 46.4 %, while the share of specialists with the highest category increased from 35.0 to 44.0 %, reflecting the ageing of the workforce and a reduction in the influx of young specialists. The identified trends indicate a deterioration in the stability of the obstetric and gynaecological service and the need to review state personnel policy, with an emphasis on training and retaining young personnel.

Key words: obstetric and gynaecological services; staffing capacity; qualification categories; obstetricians and gynaecologists; medical statistics; staffing; regional analysis; healthcare.

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ОРГАНІЗАЦІЙНО-СТАТИСТИЧНИЙ АНАЛІЗ КАДРОВОЇ ТА КВАЛІФІКАЦІЙНОЇ СТРУКТУРИ АКУШЕРСЬКО-ГІНЕКОЛОГІЧНОЇ СЛУЖБИ УКРАЇНИ

Мета дослідження – оцінити динаміку, структуру та регіональні особливості кадрового та кваліфікаційного складу акушерсько-гінекологічної служби України у 2015–2024 рр.

Матеріали та методи. У роботі використано офіційні статистичні дані щодо чисельності лікарів акушерів-гінекологів у регіонах України, а також їх розподілу за кваліфікаційними категоріями (вища, I, II). Методи дослідження: статистичний, аналітичний, порівняльний, структурний та організаційно-менеджментний аналіз. Проводили оцінку динаміки абсолютних показників, питомої ваги кваліфікаційних категорій і регіонального кадрового розподілу.

Результати дослідження та їх обговорення. Встановлено стійку тенденцію до зменшення загальної чисельності лікарів акушерів-гінекологів у більшості регіонів України протягом досліджуваного періоду. Одночасно відзначено зниження частки лікарів із вищою кваліфікаційною категорією, що може свідчити про деградацію кадрового потенціалу та старіння професійних кадрів. Регіональний аналіз виявив суттєві диспропорції між областями, що створює нерівність у доступі до спеціалізованої допомоги для жінок. Отримані результати підкреслюють необхідність перегляду кадрової політики й системи післядипломної освіти.

Висновки. У 2015–2024 рр. чисельність лікарів акушерів-гінекологів в Україні скоротилася з 11 650 до 9 311 осіб, що відповідає зниженню на 20,1 %. Протягом цього періоду кількість лікарів із I кваліфікаційною категорією зменшилась на 49,9 %, із II категорією – на 46,4 %, тоді як частка фахівців із вищою категорією зросла з 35,0 до 44,0 %, що відображає старіння кадрового складу та скорочення притоку молодих спеціалістів. Виявлені тенденції свідчать про погіршення кадрової стійкості акушерсько-гінекологічної служби та необхідність перегляду державної кадрової політики, з акцентом на підготовку та закріплення молодих кадрів.

Ключові слова: акушерсько-гінекологічна служба; кадровий потенціал; кваліфікаційні категорії; лікарі акушери-гінекологи; медична статистика; кадрове забезпечення; регіональний аналіз; охорона здоров'я.

INTRODUCTION. Obstetric and gynaecological services are one of the key components of the healthcare system, directly affecting maternal and perinatal mortality rates, reproductive health of the population, demographic processes and socio-economic development of the state [1, 10]. The effectiveness of this service directly depends

on the level of staffing, the structure of the personnel, and their qualifications [2].

In recent years, Ukraine's healthcare system has undergone systemic transformations related to financing reform, changes in the management of medical institutions, optimisation of the network of medical and preventive

institutions, and the complication of the socio-political situation in the country. In these conditions, the problem of preserving and developing the human resources potential of medical specialties, in particular obstetricians-gynaecologists, has become particularly relevant [3, 11].

Medical personnel act not only as performers of therapeutic and diagnostic processes, but also as a strategic resource of the healthcare system [4]. It is the human resource potential that determines the possibilities of providing medical care, implementing modern clinical protocols, the accessibility of services to the population, and the stability of the system's functioning in crisis conditions [5].

The qualification structure of obstetricians and gynaecologists is of particular importance. Qualification categories reflect not only the professional level of a specialist, but also their accumulated clinical experience, which directly affects the quality of care provided [6, 12]. Changes in the ratio of doctors of different categories may indicate the ageing of personnel, a shortage of young specialists, or a disruption in the continuity of medical training [7].

At the same time, Ukraine still lacks systematic studies devoted to a comprehensive analysis of the personnel and qualification structure of obstetric and gynaecological services over the last decade [8]. Most of the available publications cover individual regions or short periods of time, which makes it difficult to form a complete picture [9].

In this regard, it is relevant to conduct an organisational and statistical analysis of the staffing of obstetric and gynaecological services in Ukraine for 2015–2024, taking into account regional characteristics and the qualification structure. This approach will not only describe existing trends, but also form scientifically sound recommendations for management decisions in the field of medical education, personnel policy and healthcare organisation.

THE AIM OF THE STUDY – to assess the dynamics, structure and regional characteristics of the personnel and qualifications of the obstetrics and gynaecology service in Ukraine in 2015–2024.

MATERIALS AND METHODS. The study of the personnel and qualification structure of the obstetric and gynaecological service in Ukraine was conducted on the basis of official statistical data from industry reports for 2015–2024. The source of information was the consolidated medical statistics data, which contains information on the number of obstetricians-gynaecologists in the regions of Ukraine and their distribution by qualification categories (higher, first, second).

The object of the study was the personnel system of the obstetric and gynaecological service in Ukraine, and the subject was the quantitative and structural characteristics of doctors by qualification level in dynamics.

In the course of the work, a set of modern methods of medical and social statistics was applied: analysis of dynamic series, comparative statistical analysis, structural analysis, elements of a correlation-interpretative approach, and organisational and managerial analysis.

The following indicators were assessed:

- the total number of obstetricians-gynaecologists;
- the absolute and relative number of doctors with different qualification categories;
- their structure in percentage terms;

– the dynamics of changes in human resources over the period under review.

Absolute indicators, growth and decline rates, specific weights, as well as changes in structural ratios within qualification categories were calculated. The results were processed and systematised using methods of generalisation and logical interpretation in the context of the current transformations of the Ukrainian healthcare system.

RESULTS AND DISCUSSION. An organisational and statistical analysis of the staffing and qualification structure of the obstetrics and gynaecology service in Ukraine revealed systemic negative trends that are long-term in nature and reflect complex crisis changes in the staffing of the industry. It was established that in the period 2015–2024, the total number of obstetricians-gynaecologists decreased from 11,650 to 9,311, i.e. by 2,339 specialists or 20.1 %. This indicates a gradual degradation of the human resources potential of one of the key clinical services in the healthcare system, which provides reproductive, perinatal and gynaecological health care to the female population.

The dynamics of staff reductions were not uniform. The most intense decline in the number of doctors occurred in the periods 2020–2021 and 2022–2023, coinciding with the COVID-19 pandemic, the reform of healthcare financing, and the start of full-scale war. The combined impact of these factors contributed to both a decline in motivation to work in the public health sector and an increase in external and internal migration of medical personnel. Some specialists were forced to leave their permanent jobs due to hostilities, while others reoriented themselves to the private sector or other areas of medical practice, which had a negative impact on the overall staffing balance.

The study of changes in the qualification structure of obstetricians and gynaecologists is of particular analytical value. The results show that the reduction in the number of medical personnel is uneven across different qualification groups (Table 1). The most vulnerable group was doctors with first and second qualification categories. Thus, the number of doctors with the first category decreased from 4,050 to 2,030, i.e. almost twice (–49.9 %), and doctors with the second category – from 1,389 to 744 (–46.4 %).

This trend indicates a systematic reduction in the personnel 'reserve' of the specialty, i.e. the group of doctors who, in the future, should replenish the ranks of specialists of the highest qualification category. This situation poses a serious threat to the preservation of professional continuity in the field of women's reproductive health. The lack of a sufficient number of mid-level doctors makes it impossible to stably restore the structure of the service in the future and contributes to its further ageing.

At the same time, the recorded increase in the proportion of doctors with the highest qualification category – from 35.0 % in 2015 to 44.0 % in 2024 – cannot be considered an unambiguously positive phenomenon. In reality, it is caused not by an increase in the number of highly qualified specialists, but by a reduction in the number of doctors in lower categories. The absolute number of doctors with the highest category remained relatively stable (from 4,072 in 2015 to 4,096 in 2024), but their share increased precisely due to the 'washout' of junior staff groups.

This structure indicates a gradual 'ageing' of the core staff of the obstetrics and gynaecology service. Highly qualified

Table 1. Dynamics of the number and qualification structure of obstetricians-gynaecologists in Ukraine (2015–2024)

Year		Region																Total													
		Crimea	Vinnitsia	Volyn	Dnipropetrovsk	Donetsk	Zhytomyr	Zakarpattia	Zaporizhia	Ivano-Frankivsk	Kyiv	Kirovohrad	Luhansk	Lviv	Mykolaiv	Odesa	Poltava		Rivne	Sunny	Temopil	Kharkiv	Kherson	Khmelnytskyi	Cherkasy	Chernivtsi	Chernihiv	Kyiv city	Sevastopol		
		Abs. (%)																									Abs.				
2015	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
	Qualification category:	Number of doctors	0	487	289	956	351	300	296	526	503	470	213	144	884	250	773	374	339	261	305	961	268	356	292	328	220	1504	0	11650	
		higher	0	160	108	336	169	162	147	156	99	135	48	42	392	102	372	118	167	87	100	300	59	63	48	80	38	584	0	4072	
2016		Qualification category:	I	0	195	93	384	100	64	218	204	172	112	60	244	95	215	132	75	79	108	421	138	180	134	114	67	378	0	4050	
	II		0	48	36	113	26	30	27	60	83	68	20	23	84	21	70	43	35	27	43	93	42	48	56	55	63	175	0	1389	
		Number of doctors	0	464	284	943	365	294	286	539	503	482	215	134	887	250	763	367	339	256	299	951	269	344	288	323	209	1579	0	11633	
2017		Qualification category:	higher	0	159	116	361	182	167	146	162	113	153	47	44	416	107	373	126	166	87	104	314	58	64	51	84	38	665	0	4303
	I		0	183	84	355	110	61	60	212	202	182	113	61	239	97	200	130	77	79	98	402	138	179	134	110	61	368	0	3935	
		II	0	49	43	117	31	33	30	68	85	81	21	18	86	24	62	45	36	30	41	96	53	47	55	53	66	173	0	1443	
2018		Qualification category:	Number of doctors	0	455	278	947	358	282	513	497	455	213	130	878	251	768	365	336	260	310	927	269	346	277	324	206	1617	0	11549	
	higher		0	161	120	388	191	168	150	165	114	154	52	45	438	108	391	129	171	91	108	296	68	64	50	87	39	695	0	4443	
		I	0	174	78	345	100	56	61	206	194	171	108	58	210	99	185	133	78	80	98	398	132	172	132	111	64	358	0	3801	
2019		Qualification category:	II	0	50	44	117	29	33	67	95	76	23	15	88	19	78	48	38	30	40	91	52	53	59	52	61	169	0	1456	
	Number of doctors		0	457	266	903	348	289	275	505	488	444	215	129	867	243	735	360	338	269	318	889	251	345	278	327	212	1647	0	11398	
		higher	0	165	123	389	197	167	148	167	127	162	55	45	468	106	405	131	172	92	115	290	70	68	54	104	46	755	0	4621	
2020		Qualification category:	I	0	173	74	315	92	53	59	191	159	109	58	189	90	162	132	79	79	94	387	125	167	128	107	59	348	0	3621	
	II		0	57	48	102	25	33	32	71	90	62	25	15	88	22	73	44	42	32	42	90	45	55	59	51	66	184	0	1453	

Continuation of Table 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
2019	Number of doctors	0	450	268	867	342	288	278	498	478	430	206	131	845	240	733	355	332	265	312	881	251	348	260	324	208	1658	0	11248
		higher	0	162	131	411	195	170	157	177	131	173	57	46	486	111	424	139	176	93	136	305	70	85	56	106	48	786	0
	I	0	168	73	289	79	56	57	180	191	151	101	58	175	83	145	125	76	75	83	371	123	166	130	113	58	324	0	3450
2020	II	0	56	42	78	26	28	20	76	74	59	24	14	72	22	79	39	44	29	30	89	42	50	50	47	68	169	0	1327
	Number of doctors	0	420	266	876	318	278	260	465	453	426	194	134	822	211	726	345	322	242	310	852	234	338	242	313	195	1629	0	10871
		higher	0	173	130	432	181	172	162	185	123	174	52	53	494	100	419	137	188	84	143	320	70	90	52	106	45	794	0
2020	I	0	157	71	276	64	48	52	157	176	130	95	53	161	69	120	111	66	66	78	344	116	150	127	107	49	330	0	3173
	II	0	37	40	74	20	25	22	61	74	51	20	11	64	21	62	30	31	29	30	82	29	48	33	45	64	165	0	1168
	Number of doctors	0	428	259	782	271	259	239	300	423	392	182	88	782	213	712	325	312	312	230	300	679	132	335	236	304	194	1400	0
higher		0	193	126	410	157	155	147	137	133	166	51	42	489	95	412	138	187	87	149	269	50	111	52	119	47	751	0	4673
2022	I	0	116	69	209	43	40	44	79	166	102	73	23	126	56	114	91	54	57	57	231	52	128	116	85	51	213	0	2395
	II	0	35	26	54	16	26	14	29	55	26	24	10	52	17	36	28	26	26	35	56	19	38	26	40	50	100	0	864
	Number of doctors	0	426	256	761	245	258	227	285	444	402	194	87	776	205	684	321	308	211	295	662	118	334	228	312	192	1334	0	9565
higher		0	186	115	406	127	149	116	137	143	172	54	41	478	90	374	131	173	76	139	268	38	110	48	113	44	656	0	4384
2023	I	0	111	60	189	40	38	37	64	166	89	76	24	125	59	108	79	59	52	59	214	38	121	115	91	51	198	0	2263
	II	0	35	24	48	14	24	12	25	58	29	26	7	46	9	34	26	27	22	33	54	11	37	23	36	41	98	0	799
	Number of doctors	0	424	252	743	157	255	232	268	439	390	183	51	774	208	662	316	318	200	282	586	100	327	221	300	190	1433	0	9311
higher		0	166	117	352	67	146	94	122	130	166	56	19	462	92	372	128	171	66	127	216	33	108	43	99	46	698	0	4096
2024	I	0	97	62	178	15	32	23	58	161	87	65	16	116	57	94	75	59	44	46	176	23	116	109	82	49	190	0	2030
	II	0	32	21	47	10	26	13	21	54	29	20	3	46	12	31	27	24	20	26	48	9	35	21	33	42	94	0	744
	Qualification category:	higher	0	162	131	411	195	170	157	177	131	173	57	46	486	111	424	139	176	93	136	305	70	85	56	106	48	786	0
I		0	168	73	289	79	56	57	180	191	151	101	58	175	83	145	125	76	75	83	371	123	166	130	113	58	324	0	3450

doctors usually have significant professional experience and are in the older age groups, which in the long term will inevitably lead to the mass retirement of some of them. In the absence of adequate replenishment and professional growth of younger staff, this creates the risk of a sharp staffing crisis in the medium term.

To summarise the dynamic changes in the personnel structure, see the integrated table 1.

Analysis of the table shows a clear trend towards a progressive decline in the proportion of doctors with first and second qualification categories, while the proportion of doctors with higher categories remains consistently high. This indicates a distortion of the normal pyramid of qualification distribution among personnel. While in a balanced healthcare system, doctors with the first category should constitute the majority, forming the 'operational core' of the service, in Ukraine there is an inverted structure with a predominance of the senior qualification segment.

In addition to the qualification imbalance, there is a marked territorial unevenness in the distribution of medical personnel. In large metropolitan areas and regional centres, the concentration of obstetricians-gynaecologists remains relatively stable, while in peripheral areas and small communities there is a critical shortage. This leads to unequal access to specialised medical care for the female population, especially in the field of prevention and early diagnosis of gynaecological pathology.

From the perspective of healthcare organisations, these trends are extremely alarming, as staff shortages directly affect the availability of medical services, the timeliness of diagnosis, the quality of treatment, and the level of maternal and reproductive safety. In regions with a low density of obstetricians and gynaecologists, the workload per specialist is increasing, leading to professional burnout, a decline in the quality of counselling and, consequently, poorer medical outcomes.

It is worth noting that in the context of the demographic crisis and increasing reproductive losses in Ukraine, it is the obstetric and gynaecological service that plays a strategic role in ensuring national security. Therefore, the degradation

of human resources has not only medical but also socio-demographic and economic consequences.

The results of the study indicate a deep structural crisis in the staffing of obstetric and gynaecological services in Ukraine, which requires the implementation of targeted state programmes for staff incentives, improvement of the postgraduate education system, enhancement of the prestige of the profession, and the creation of effective mechanisms for attracting and retaining young doctors in the public health sector.

CONCLUSIONS. 1. As a result of the organisational and statistical study, it was established that the human resources potential of the obstetrics and gynaecology service in Ukraine in 2015–2024 underwent a significant decline, which manifested itself in a 20.1 % reduction in the total number of doctors. At the same time, a pronounced deformation of the qualification structure was revealed: the number of doctors with first and second qualification categories decreased by almost half, while the relative share of doctors with the highest category increased to 44.0 %.

2. The identified trends characterise the ageing of the professional core of the service against the backdrop of a decline in the influx of young personnel, which creates risks of disruption to continuity, personnel stability and the availability of obstetric and gynaecological care in the future. The current situation requires strengthening of state personnel policy in the sector, modernisation of the system of training and certification of doctors, and the development of long-term programmes to retain specialists in the healthcare system.

PROSPECTS FOR FURTHER RESEARCH. Further research should focus on an in-depth analysis of the age structure of obstetricians and gynaecologists, an assessment of their work experience, the integration of staff turnover indicators, and a study of the relationship between the service's human resources potential and the availability of specialised medical care for women in the regions of Ukraine. A promising direction is the development of models for forecasting staffing levels, taking into account demographic changes, migration processes, and the workload per doctor.

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