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# ANALYSIS OF DEFECTS RENDERING MEDICAL CARE ACCORDING TO THE DATA OF COMMISSION FORENSIC EXAMINATIONS IN SI "THE MAIN BUREAU OF FORENSIC EXAMINATION OF MINISTRY OF THE HEALTH OF UKRAINE" FOR 2012-2014 YY.

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**Resume:** One of the main tasks of forensic examination in such cases is to establish a causal connection between the actions (inaction) of medical personnel and the onset of adverse consequences. And even despite the fact that each case is unique in medicine, the right approach to the examination gives posibility to find such connections, if they are present. The aim of the study was to identify errors in the provision of medical care by analyzing the commission forensic medical examinations performed in the SI "The Main Bureau of Forensic Examination of Ministry of the Health of Ukraine" and comparison of forensic examinations of these errors in SI and various regional forensic bureau examination Ukraine.

Key words: forensic examination, defect of medical care, expert conclusion.

INTRODUCTION. The issue of quality and accuracy of medical care is particularly acute in modern life, this fact is even noted in the mass media [1-4]. It's confirmed by the steady increase in the number of forensic examinations intended in Ukraine in criminal and civil cases against physicians in bad providing medical care. Many modern scientists in the medical field as well as in legal issues studied inadequate medical assistance [5, 6]. At the same time, it should be noted that along with the errors that allowed by physicians clinicians to provide medical care, forensic experts themselves make mistakes in conducting examinations for "Doctoring". It's clear that such expertise is one of the most difficult, because formal approach to their conduct is unacceptable. One of the main tasks of forensic examination in such cases is to establish a causal connection between the actions (inaction) of medical personnel and the onset of adverse consequences. And even despite the fact that each case is unique in medicine, the right approach to the examination gives posibility to find such connections, if they are present. Unfortunately, in the absence of a common approach to assess the accuracy of medical care, and ignorance forensic expert in legal sphere, including clinical protocols of care, quality of forensic examinations concerning "medical cases" in Ukraine remains low.

The aim of the study was to identify errors in the provision of medical care by

analyzing the commission forensic medical examinations performed in the SI "The Main Bureau of Forensic Examination of Ministry of the Health of Ukraine" and comparison of forensic examinations of these errors in SI and various regional forensic bureau examination Ukraine.

**Material and methods.** The research were forensic examinations performed by a medical forensic department SI "The Main Bureau of Forensic Examination of Ministry of the Health of Ukraine" for 2012-2014 years in cases of defects in medical care.

The data were subjected to statistical analysis by standard methods of descriptive statistics using BIOSTAT. Statistical analysis included the calculation of primary statistical parameters (mean and standard error (M)).

**RESULTS AND DISCUSSION.** In the statistical analysis of the examinations conducted in the forensic medical department it was found that the total number of examinations for "Doctoring" increased from  $19,16 \pm 1,46\%$  in 2012 to  $23,56 \pm 1,46\%$  in 2014. However, as can be seen from Table 1, the significant is the increasing of the number of changed examinations of  $18,49 \pm 0,9\%$  in 2012 to  $19,87 \pm 0,9\%$  in 2014.

Table 1

Quantification of repeated examinations, that were done in SI "The Main Bureau of Forensic Examination of Ministry of the Health of Ukraine" for 2012-2014 years in medical cases

Years	Total number n=1895	In medical cases							
	11-1893	Total number		Confirmed		Specified		Changed	
		n=419	%± M	n=250	%± M	n=92	%± M	n=77	%± M
2012	621	119	19,16±	73	61,34±	24	20,17±	22	18,49±
			1,46		0,88		0,96		0,9
2013	633	149	23,54±	89	59,73±	35	23,49±	25	16,78±
			1,46		0,88		0,96		0,9
2014	641	151	23,56±	88	58,28±	33	21,85±	30	19,87±
			1,46		0,88		0,96		0,9

Assessing the materials on the cases of repeated forensic medical examinations that were done in the main bureau, we can notice that the general level of the previously conducted examinations in the department of commission examinations, unfortunately, was low.

In particular, from the analyzed repeated examinations by Main Bureau commissions of on materials inspection and criminal cases that have been raised with respect to health workers in connection with their professional duties (ie, the so-called "doctoring"), the findings have been changed in 77 cases, representing 18.38%.

Traditionally, the largest share of expertise concerning with medical cases belonged to obstetric and surgical specialties -  $28,44 \pm 2,44\%$  and  $22,9 \pm 2,44\%$ , respectively (fig. 1).

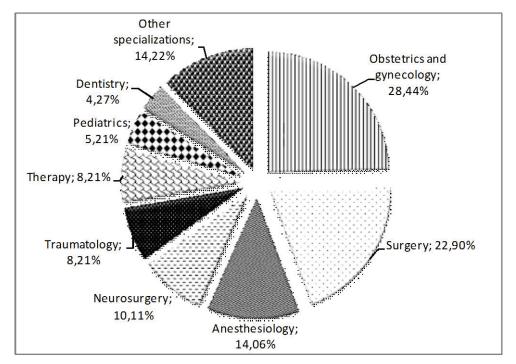


Fig.1. The distribution of repeated examinations, that were done in SI "The Main Bureau of Forensic Examination of Ministry of the Health of Ukraine" for 2012-2014 years, in medical cases by doctors of different specialties

Table 2 Total number of repeated forensic medical examinations conducted in the SI «The Main Bureau of Forensic Examination of Ministry of the Health of Ukraine» for 2012-2014 years, in the regions of Ukraine (the data of the State Statistics Committee of Ukraine on 01.04.2014 yy.)

Regions of Ukraine		Number of forensic examinations by					
	Aggregate	materials for verification and riminal cases, initiate					
	Number of po-	against health workers in connection with the					
	pulation	performance of professional duties					
		Total	Confirmed	Specified	Changed		
	45 377581	number	%±3,1	%±3,13	%± 3,02		
		%± 0,35	(M)	(M)	(M)		
		(M)					
1. Vinnytsa	1 614 762	2,39	40	-	60		
2. Volyn'	1 041 622	2,86	25	50	25		
3. Dnipropetrovsk	3 285 626	4,53	68,42	31,58	-		
4.Donetsk	4 332 016	5,97	52	16	32		
5.Zhytomyr	1 259 823	0,95	50	-	50		
6.Zakarpattya	1 257 262	4,53	42,11	31,58	26,31		
7. Zaporizhya	1 772 214	1,67	42,9	42,9	14,2		
8.Ivano-Frankivsk	1 381 505	2,62	45,45	36,36	18,19		
9.Kyiv (c.)	2 870 930	5,25	54,55	45,45	-		
10.Kyivregion.	1 725 893	1,67	57,14	-	42,86		
11.Kirovohrad	984 864	3,81	75	6,25	18,75		
12.AR Crimea	1 968 550	5,0	47,62	28,57	23,81		

13.Lugansk	2 232 887	5,25	50	27,27	22,73
14.Lviv	2 536 053	5,25	45,45	45,45	9,1
15.Mykolayiv	1 166 210	3,41	71,43	28,57	-
16.Odessa	2 394 339	7,88	78,79	3,03	9,09
17.Poltava	1 454 245	4,06	58,82	29,41	11,77
18.Rivne	1 159 296	3,1	76,92	23,08	-
19.Sevastopil (c.)	385 998	1,67	100	-	-
20.Sumy	1 129 094	2,62	54,55	9,09	36,36
21.Ternopil	1 071 597	1,43	83,33	16,67	
22.Kharkiv	2 735 862	8,11	64,71	8,82	26,47
23.Kherson	1 070 567	3,81	68,75	18,75	12,5
24.Khmelnytsk	1 304 602	2,62	72,73	27,27	
25.Cherkasy	1 256 770	3,34	71,43	7,14	21,43
26.Chernigiv	1 062 810	2,39	60	10	30
27.Chernivtsy	908 409	3,81	56,25	25	18,75

Table 2 it appears that the number of sent examinations from various regions of Ukraine aren't always correlated with data of the population density. For example, most of 34 examinations (8,11  $\pm$  0,35%) was from Kharkiv RB, while as Kharkiv region ranks fourth in population, according to the State Statistics Committee of Ukraine on 1.04.2014r., after Donetsk, Dnipropetrovsk regions, m. Kyiv. The second is the number of examinations in Odessa region - 33 examination (7,88  $\pm$  0,35%), which in terms of population is the sixth. The third place occupies Donetsk region (5,97 $\pm$  0,35%), which is largest in terms of population the largest in Ukraine. Next are Lviv, Lugansk and Kyiv city- in 22 cases (5,25  $\pm$  0,35) - and ARC-21 cases (5  $\pm$  0,35%).

The important fact is the number of changed examinations. For example, the maximum number of examinations was modified in Vinnytsa- 6 cases ( $60 \pm 3.02\%$ ), Zhytomyr- 2 cases (50  $\pm$  3,02%), Kyiv - 3 cases (42,86  $\pm$  0,35%) , Sumy- 4 cases  $(36,36 \pm 3,02\%)$  and Kharkiv - 9 cases  $(26,47 \pm 3,02\%)$  regions. In carrying out repeated examinations for medical cases with the decision for the accuracy of medical care drew attention to the fact that the expert commission, evaluating the provision of medical care pointed that errors in the providing of medical care were absent, that medical tactic was correct, normative documents providing medical care of patients with such disorders were not affected, but the protocol part of the conclusions hadn't any information from existing regulations, not even mentioned their names. Often in such cases during the re-examination it became clear, that existing regulations actually provides another patient care, than the one that was used, and that no therapeutic or diagnostic measures can't be considered accurate or adequate, ie aid was given with defects. In 53 cases of 77 changed examinations, performed by health workers in occupational offenses, in which the commission of regional bureau assured legal and investigative workers that the treatment was carried out properly, commissions of the Main bureau not only marked the numerous violations in health care, but also found cause - effect relationship between deficiencies in the treatment and the occurrence of death or other adverse effects.

Here are a few examples: according to the conclusions of the regional bureau "actions of the medicinal personnel were matched to the fetus and pregnant woman. She died from suppurativeendometritis "(quote). In conducting the re-examination in the Main bureau was founded, that pregnant came to the hospital with symptoms of high rupture of the fetal bladder, and during the first day of staying in the hospital she developed symptoms of inflammation. Despite this situation, appropriate diagnostic and therapeutic measures provided for in the protocols of obstetric care, weren't carried out and even the deterioration of the pregnant status haven't changed the medical tactics, but only on the 4th day it was decided to hold a C-section. Of course, expert opinions regarding the correctness of the assessment of medical care was changed, and the commission of Main bureau indicated, that such medical care to the pregnant woman didn't leave her a chance to save her life.

According to the results of another examination conducted into the death of a child from mechanical asphyxia in the course of providing anesthesia care "commission didn't found any deflection from standart algorithms of the patient care " (quote). Among all questions concerning the correctness of the assessment of medical care, investigators were especially interested, wasn't exceeded dose of the ketamine applied for anesthesia. Commission of the Main bureau proved that the amount of injected ketamine, indeed, been slightly exceeded, but the death of a child became not from the fact of drug overdose, but due to the insufficient controls by anesthesiologist for the adequacy breathing of the patient and untimely adjustment of mechanical ventilation, ie between improper provision of anesthesia care and the onset of death direct cause effect relationship were present.

Otherwise childbirth with large fetus at the onset of diagnosis "Large fetus" caused the gap of the pubic joints of woman, and the child was born with severe intracranial and spinal injuries. According to the conclusion of commission of regional bureau there wasn't any indications for C-section. According to the protocols of obstetric care such obstetrical situation as clinically narrow pelvis is an indication for the C-section, that's why during the re-examination the Main bureau changed such opinions and indicated, that it was non-compliance with existing regulations wich caused injuries of woman and fetus.

Another obstetric-gynecologic case, where the correct assessment of medical care by commission of regional bureau was formulated in one sentence - "Medical care was correct and sufficient" without reference to the applicable regulations. According to the Main bureau conclusions in this case was not full examination of pregnant at admission before delivery and in the postpartum period, due to the long postoperation healing by secondary intention, discharged from hospital with changes in the blood that are indicative of an inflammatory process, without discharge control laboratory tests, crops of wounds, determine sensitivity to antibiotics as a result of the patient hasn't received adequate medical treatment and got postpartum endometritis chronic.

In some of the findings of the expert committee of the regional bureau succinctly states that "the diagnosis of disease and treatment tactics were correct and regulations,

which provide medical care for patients with suspected miscarriage, not violated, and death was caused by the individual reaction to the anesthesia." When performing reexamination, the Main bureau found, that diagnostic tactics didn't meet the current regulations, the grounds for the surgery was not, and that this activity has caused death through the use of anesthesia.

Here is another example of the changed report. This is the case of having a child at home, without obstetric care, without any examinations during pregnancy because woman wasn't registered in antenatal clinics. Child after birth was taken to a hospital in a state of moderate severity with hypoxic brain damage, jaundice and anemia conjugation severe. After a blood transfusion, the treatment child's condition improved after a few days, and subsequently remained stable. Judging by questions to experts the investigation wondered what was due to the child's condition and what prognosis was possible in case if the child continues to remain without medical care. The commission of the regional bureau established that the child's condition after treatment as no danger to life and physiological jaundice, highlighting some reason the whole complex pathologies attributed to slight injuries, not explained either its origin or causal connection with leaving a child without proper care. It was incomprehensible to the investigation and was the basis for the repeat examination. Considering the case involving the neonatologist, the MB pointed out that in severe anemia, which developed in the presence of conjugation jaundice, without providing skilled care there was a danger to life.

It should also be noted, that in some forensic examination conclusions, despite their considerable volume they didn't contain the necessary information, in particular, the presence of any shortcomings in medical care, while experts don't point to the existence of a causal connection between adverse effects and actions (or inaction) doctor.

To specified examinations was attributed those that were generally confirmed by the Main bureau, but in addressing specific issues were given some clarification if it does not significantly alter the overall assessment of the circumstances of the case. In addition to these significant shortcomings that were found during examinations should mention some of the most common, which can also be identified as shortcomings of expert work - namely, the title page "expert conclusion" and "Act of forensic research" continued to be waged not in accordance with forms approved by the Ministry of Health of Ukraine on August 5, 1999. Number 197:

- if in the order of numbering questions to the experts, answers sometimes are given without numbering or resolution of the issues, for unknown reasons, is ignored;
- information about the expert, who performs the examination or investigation, outlines not completely (job specialty, qualification rank, rank professional experience), or instead of the name of his post "forensic expert" pointed "legal expert" what is wrong; the results observed in the design of concise presentation of unsubstantiated opinion or bulkiness and complexity of expert judgment.

Regarding the shortcomings of the specified type we can say that to a large extent they depend on a significant burden expert and specific work that requires compliance with the terms of the sometimes weak knowledge of regulatory documents. Although by themselves these shortcomings don't affect the quality of expert opinion, but their presence in an official document sometimes will lead to prosecution expert in bad faith, doubts about in his qualifications or even mistrust concluded and on this basis - to repeat examination.

#### CONCLUSIONS

- 1. In the statistical analysis of the examinations conducted in the forensic medical department it was found that the total number of examinations for "Doctoring" increased from  $19,16 \pm 1,46\%$  in 2012 to  $23,56 \pm 1,46\%$  in 2014. However, as can be seen from Table 1, the significant is the increasing of the number of changed examinations of  $18,49 \pm 0,9\%$  in 2012 to  $19,87 \pm 0,9\%$  in 2014.
- 2. The largest share of expertise concerning with medical cases belonged to obstetric and surgical specialties  $28,44 \pm 2,44\%$  and  $22,9 \pm 2,44\%$ , respectively.
- 3. The number of sent examinations from various regions of Ukraine aren't always correlated with data of the population density. Most of 34 examinations (8,11  $\pm$  0,35%) was from Kharkiv,33 examination (7,88  $\pm$  0,35%) from Odessa region The third place occupies Donetsk region (5,97  $\pm$  0,35%). Next are Lviv, Lugansk and Kyiv city- in 22 cases (5,25  $\pm$  0,35) and ARC-21 cases (5  $\pm$  0,35%).
- 4. Among the shortcomings during examinations were the following: the title page "expert conclusion" and "Act of forensic research" continued to be waged not in accordance with forms approved by the Ministry of Health of Ukraine on August 5, 1999. Number 197: if in the order of numbering questions to the experts, answers sometimes are given without numbering or resolution of the issues, for unknown reasons, is ignored; information about the expert, who performs the examination or investigation, outlines not completely, or instead of the name of his post; the results observed in the design of concise presentation of unsubstantiated opinion or bulkiness and complexity of expert judgment.
- 5. Regarding the shortcomings of the specified type we can say that to a large extent they depend on a significant burden expert and specific work that requires compliance with the terms of the sometimes weak knowledge of regulatory documents. Although by themselves these shortcomings don't affect the quality of expert opinion , but their presence in an official document sometimes will lead to prosecution expert in bad faith, doubts about in his qualifications or even mistrust concluded and on this basis to repeat examination.

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# АНАЛІЗ ДЕФЕКТІВ НАДАННЯ МЕДИЧНОЇ ДОПОМОГИ ЗА ДАНИМИ КОМІСІЙНИХ СУДОВО-МЕДИЧНИХ ЕКСПЕРТИЗ В ДУ «ГОЛОВНЕ БЮРО СУДОВО-МЕДИЧНОЇ ЕКСПЕРТИЗИ МОЗ УКРАЇНИ»

### Плетенецька А.О., Легедза А.В.

Резюме. Наряду з помилками, які допускаються лікарями- клініцистами у наданні медичної допомоги, судово-медичні експерти, у свою чергу, самі допускають помилки при проведенні експертиз за «лікарськими справами». Тому метою дослідження було виявлення помилок, допущених при наданні медичної допомоги, шляхом аналізу комісійних судово-медичних експертиз, виконаних у «Головному бюро судово-медичної експертизи МОЗ України» за 2012-2014 рр за справами стосовно дефектів надання медичної допомоги, а також співставлення судово-медичної оцінки цих помилок експертами ГБ та різних обласних бюро судово-медичної експертизи України. У статті наведені дані з експертиз, загальна кількість всіх, підтверджених, уточнених та змінених комісійних судово-медичних експертиз, що були надіслані до ГБ з різних регіонів України. Надані статистичні дані щодо співвідношення експертиз стосовно лікарських справ за різними спеціальностей лікарів. Проаналізовані недоліків, що припускалися при проведенні експертиз в обласних бюро СМЕ України, що може бути підставою для призначення повторної експертизи.

**Ключові слова:** судово-медична експертиза, дефект надання медичної допомоги, висновок експерта.