

Investigating obstetrics and gynecology forensic cases at a tertiary health center in Turkey to demonstrate the significance of forensic evaluation

Vyšetřování forenzních případů v porodnictví a gynekologii v terciárním zdravotnickém centru v Turecku s cílem demonstrovat význam forenzního hodnocení

Ç. Ateş^{1,2}, B. Dilbaz¹

¹Obstetrics and Gynecology Department, University of Health Sciences, Etlik Zubeyde Hanım Training and Research Hospital, Ankara, Turkey

²Obstetrics and Gynecology Department, Sankaya State Hospital, Yozgat, Turkey

Summary: Objectives: To assess the diagnostic rates of forensic case patients who sought gynecological and obstetrics care, as well as the differences in forensic report production based on the event. **Study design:** The following factors were looked into: age of the patients, time between the incident and consultation, reason for consultation (pregnancy determination during the post-divorce waiting period, sexual assault, hymen examination, physical violence, other), time of the consultation (in-hours or out-of-hours), place of referral (prosecutor's office/court, police station, own request), and type of report (final or preliminary). The data were obtained retrospectively. **Results:** When 651 forensic cases admitted to the emergency department were examined, 234 (36%), 199 (30.6%), 66 (10.6%), and 34 (5.2%) requested waiting period removal, physical assault against women, sexual assault, and hymen examination, respectively. The study revealed that 62.1% of sexual assault incidents were perpetrated by an acquaintance, 19.1% by a distant relative, and 12.1% by a first-degree family member. It was determined that the patient's partner was responsible for 63.8% of the physical violence against women, while 24.6% was committed by a first-degree relative and 6.5% was perpetrated by other acquaintances. **Conclusion:** If the legislator revises the provision on the modern legal system's waiting period, which prevents women from remarrying, judicial reports may drop rapidly. Examining cases referred to gynecologists and obstetricians in centers with forensic medicine specialists and medical staff trained in forensic medicine will ensure safer forensic examinations and medical investigations.

Key words: forensic case – obstetrics and gynecology – sexual assault – violence against women

Souhrn: Cíle: Zhodnotit míru diagnostiky forenzních případů pacientek, které vyhledali gynekologickou a porodnickou péči, a rozdíly v tvorbě forenzních zpráv v závislosti na události. **Plán studie:** Byly sledovány následující faktory: věk pacientek, doba mezi událostí a konzultací, důvod konzultace (určení těhotenství v čekací době po rozvodu, sexuální napadení, vyšetření panenské blány, fyzické násilí a jiné), doba konzultace (v pracovní době, nebo mimo pracovní dobu), místo odeslání (státní zastupitelství/soud, policejní stanice, vlastní žádost) a typ zprávy (konečná, nebo předběžná). Údaje byly získány retrospektivně. **Výsledky:** Při zkoumání 651 forenzních případů přijatých na oddělení urgentního příjmu požadovalo 234 (36 %) případů odstranění čekací doby po rozvodu, 199 (30,6 %) přišlo pro fyzické napadení žen, 66 (10,6 %) pro sexuální napadení a 34 (5,2 %) případů kvůli vyšetření panenské blány. Studie odhalila, že 62,1 % případů sexuálního napadení bylo spácháno známým, 19,1 % vzdáleným příbuzným a 12,1 % příbuzným prvního stupně. Bylo zjištěno, že 63,8 % případů fyzického násilí na ženách má na svědomí partner pacientky, 24,6 % případů spáchal příbuzný prvního stupně a 6,5 % případů spáchali jiní známí. **Závěr:** Pokud zákonodárce zreviduje ustanovení o čekací době moderního právního systému, které brání ženám uzavřít nový sňatek, může počet soudních oznámení rapidně klesnout. Vyšetřování případů předaných gynekologům a porodníkům v centrech se specialisty na soudní lékařství a zdravotnickým personálem vyškoleným v soudním lékařství zajistí bezpečnější soudní vyšetření a lékařské vyšetřování.

Klíčová slova: forenzní případ – porodnictví a gynekologie – sexuální napadení – násilí na ženách

Introduction

Forensic cases involve situations where there is suspicion that an individual or others may be accountable for the circumstances that led to harm of the person's health [1]. The phrase liability encompasses the concepts of intent, negligence, carelessness, and recklessness. Forensic cases, regardless of whether they arise from negligence or intentional actions, exhibit variations based on the country and the corresponding legal framework, but they unequivocally necessitate criminal accountability [1]. Health professionals in our country (Turkey) may receive referrals from prosecutors' offices, courts, and police station authorities to compile a forensic report for forensic cases. Gynecologists and obstetricians have a higher patient load than most other branches, with the exception of a few, when conducting forensic investigations [2,3].

Gynecologists and obstetricians are frequently requested to compile forensic reports on various matters. For divorced women who are considering remarriage, it is legally necessary to get a pregnancy test if the divorce occurred recently (within the waiting period) and the result of the test must be documented. This term lasts from 100 to 310 days, depending on the country [4]. The legislator intends to use this interval to avoid any ambiguity concerning the custody of the future child's paternity.

Sexual assaults are among the most critical forensic examinations that practitioners should prioritize. Almost one in every five women is affected by sexual assault or sexual contact, which can range from touching without consent to intercourse without consent [5]. The increasing frequency of sexual assaults is particularly concerning due to their profound psychological and traumatic effects on survivors [6].

The presence of penetration is important in women who are victims of sexual assault, especially in childhood. The criminal law of many countries, as

in Turkey, emphasizes the existence of penetration [7]. For this, hymen examination reporting is needed. This examination should be performed by qualified experts as close to the time of the incident as possible. Although there is limited information in the literature, the only finding that can be confirmed during examination is the injury that can be detected in the posterior part of the hymen [7].

The global prevalence of physical or sexual violence is not yet definitively established, but it is a significant public health issue that is generally on the rise worldwide, with many countries seeing higher rates than others [8]. Only 40 percent of women are estimated to seek assistance following an occurrence of physical or sexual abuse, or domestic violence. Furthermore, only 10% of these incidents are reported to the police [8].

This study includes a retrospective analysis of 651 forensic cases admitted to a tertiary care center, which is a branch hospital in the field of gynecology and obstetrics, and the approach of gynecologists and obstetricians to these cases.

Materials and methods

The research was conducted within the scope of 651 patients who applied to the emergency department of the University of Health Sciences Etlik Zübeyde Hanım Gynecology Training and Research Hospital between 1. 1. 2021 and 1. 1. 2022 and were evaluated as forensic cases. The data in the study were obtained retrospectively from the forensic case registry and hospital automation system. The study's inclusion criteria were patients who had been registered as forensic cases. Exclusion criteria included all patients who have not been diagnosed as forensic cases. The study received approval from the Local Council of the Etlik Zübeyde Hanım Gynecology Training and Research Hospital (Approval No. E-900057706-799; 19,08,2022/10).

The information required includes age of the patients, time interval between the incident and consultation, reason for consultation (pregnancy determination during the post-divorce waiting period, sexual assault, hymen examination, physical violence, pregnancy + trauma, other), time of consultation (in-hours or out-of-hours), place of referral (prosecutor's office/court, police station, own request), type of report (final report or preliminary report), and relationship of the perpetrator in cases of sexual assault or physical violence (first-degree relative, distant relative, acquaintance, stranger). In addition, data on the length of time between the event and subsequent assessment were documented.

Informed consent: In this retrospective study, informed consent is routinely obtained during the patient's admission to our healthcare institution. Patients are required to confirm and provide their signature, acknowledging that all information pertaining to their examination, treatment, and interventions falls within the purview of the training and research hospital. Furthermore, patients acknowledge that this information may be utilized anonymously by medical specialty students or academicians for scientific research purposes. Data were collected by anonymizing the patient's identifying information during the research.

Statistical analysis: Since the variables discussed in the study are categorical variables, frequency (N) and percentage (%) values are given in descriptive analyses. The data were analyzed in the SPSS.25 program.

Results

Age distribution of the admitted patients was determined to be 29 (4.5%) under the age of 15 years, 86 (13.2%) between the ages of 15 and 18 years, including these ages, and 535 (82.5%) over the age of 18 years (Tab. 1).

When 651 forensic cases admitted to the emergency department were

Tab. 1. Quantities of forensic cases and their distribution as percentages.

Tab. 1. Množství forenzních případů a jejich rozdělení v procentech.

Parameters	In the entire sample (N = 651)		Internally
	frequency	%	%
Age			
< 15	29	4.5	
15–18	86	13.2	
> 18	535	82.3	
Reason for consultation			
waiting (iddah) period	234	36.0	
sexual assault	66	10.2	
hymen examination	34	5.2	
physical violence against woman	199	30.6	
pregnancy + trauma	78	12.0	
others	39	6.0	
Time interval between the incident and the consultation			
first 24 hours	140	21.5	37.7
24–72 hours	86	13.2	23.2
> 72 hours	145	22.3	39.1
Time of consultation			
in-hours	588	90.5	
out-of-hours	62	9.5	
The place of referral			
prosecutor's office/court	482	74.2	
police station	46	7.1	
own request	122	18.8	
The relationship of the perpetrator in cases of sexual assault			
first-degree relative	8	1.2	12.1
fistant relative	13	2.0	19.7
acquaintance	41	6.3	62.1
stranger	4	0.6	6.1
The relationship of the perpetrator in cases of physical violence			
partner	127	19.5	63.8
first-degree relative	49	7.5	24.6
acquaintance	13	2.0	6.5
stranger	10	1.5	5.0
The type of report			
final report	598	92.0	
preliminary report	52	8.0	

N – number

examined, the number of reports requested for the removal of the waiting period was 234 (36%), the number of cases admitted due to physical

assault against women was 199 (30.6%), the number of cases accepted due to sexual assault was 66 (10.6%), and the number of reports requested for hymen

examination was 34 (5.2%). The time between the onset of the complaint and examination was as follows: 21.5% of patients applied within the first 24 hours,

13.2% of patients applied between 24–72 hours, and 22.3% of patients applied after 72 hours. About 90.5% of the patients were admitted in-hours and 9.5% were admitted out-of-hours (Tab. 1).

The prosecutor's office/court referred 74.2% of the patients, while the police station referred 7.1%. The study revealed that 62.1% of sexual assault incidents were perpetrated by an acquaintance, 19.1% by a distant relative, and 12.1% by a first-degree family member. It was determined that the patient's partner was responsible for 63.8% of the physical violence against women, while 24.6% was committed by a first-degree relative and 6.5% was perpetrated by other acquaintances. Gynecologists and obstetricians provided the final report for 92% of all instances and a preliminary report for 8% of all cases (Tab. 1).

Discussion

When examining the connection between forensic cases and fields of gynecology and obstetrics, research on the circumstances that give rise to medical malpractice lawsuits is prominent in the literature [3,9]. On the other hand, there is a scarcity of research on the examination and documentation of forensic cases that are specifically referred to gynecologists and obstetricians for direct assessment and report generation.

This research, conducted in a center with the highest number of outpatient patients in the field of gynecology in Turkey, reveals that the highest workload expected from gynecologists and obstetricians in terms of forensic cases is the preparation of reports for pregnancy determination regarding the cancellation of the waiting period after divorce. The medical need and biological validity of the waiting time in the Turkish Civil Code, which prohibits women from getting married within 300 days after their divorce or the death of their spouse, remain a subject of ongoing

discussion [4,10]. According to the Constitution of the Republic of Turkey, women and men have equal rights. The civil law, on the other hand, was drafted against the possibility of "a woman remarrying and giving birth without complying with the waiting period". There is no reason to justify this prohibition of marriage, which is specific to women only [11]. In addition, other articles of the same law define the offence as 'the act of concealing the paternity of the child'. In this case, actions that may inadvertently incriminate the woman during the waiting period can be easily expressed [12]. According to the modern legal system, the same waiting periods are also included in the legal systems of Germany, France, and Switzerland; however, Switzerland has cancelled this article of law in its legal system for similar reasons explained above [13]. It has been observed that these simple pregnancy tests (beta-hCG) and ultrasound applications made by obstetricians and gynecologists to shorten the waiting period make up the majority of forensic reports, as shown in our study. We believe that such examinations will rapidly decrease as a result of legislative changes in the modern legal system in relation to the limited marriage ban regarding the waiting period for women.

Due to the rising incidence of sexual assault, a thorough definition of rape has been formulated, encompassing any form of penetration of a bodily orifice (such as the vagina, anus, or mouth) without consent, using either a sexual organ or an instrument [14]. Approximately 50 to 80% of instances of sexual assault are perpetrated by an individual who is acquainted with the victim [14,15]. Upon examining the patients admitted for sexual assault in our study, we found that over 90% of the cases involved perpetrators who were known by the victims. The frequency and incidence estimates of sexual assault are significantly impacted by the

widespread underreporting of such incidents. Our investigation revealed that the proportion of applicants resulting from sexual assault in all forensic cases was 10% (Tab. 1). Sexual assault has short- and long-term consequences on women's physical, mental, sexual, and reproductive health. Short-term health effects include physical injuries, sexually transmitted infections (STIs), and pregnancy [16]. In forensic reports prepared in such cases, findings regarding these issues should be carefully evaluated, and the health sequelae of sexual assault should not be overlooked. Prevention of sexual violence requires a comprehensive approach that includes interventions that address individual, relational, community, and societal factors [17].

Rape is the most underreported criminal offense. Approximately 16% to 38% of individuals who have experienced rape inform law authorities about the assault, and a comparable proportion seek medical assessment [17]. Legislators regard the issue of penetration in cases of rape to be significant, since it might affect the nature of the crime. As a result, gynecologists and obstetricians are asked to do hymen examinations. The majority of scars resulting from rape are typically located in the posterior region of the vagina, namely between the 3 and 9 o'clock positions [18]. If a child or adolescent is raped, the hymen is more likely to be damaged than in adults, and the injury is more serious. These scars may remain permanently even after several years [19]. In our study, the rate of a definitive doctor's report was over 90%. This was 100% for the hymen examination. We believe that the primary reason for this is that the majority of patients who undergo hymen examinations are children and adolescents, and the results of the examination can be more easily discerned.

The United Nations defines violence against women as "any act of gender-based violence that results in, or is likely to result in, physical, sexual, or mental

harm or suffering to women, including threats of such acts, coercion, or arbitrary deprivation" [20]. In our study, we also looked at the rate of those diagnosed with physical violence against women only. The majority of physical violence against women, such as sexual assault, was perpetrated by people the women knew. About 65% of them were partners. Physical violence against women increases as age increases, education level decreases, and socio-economic level decreases. Compared to previous studies, this increase emphasizes more cases of intimate partner violence [21]. Cases of violence against women outside of partners are mostly caused by people who have addiction problems such as drugs [22].

In the study, we observe that the majority of the female patients examined as forensic cases, except for a very small number, applied within in-hours and only one third of these applications could be evaluated within the first 24 hours after the forensic event. The remaining patients were evaluated after 24 hours. We suggest that this situation is related to the time and process of the prosecutor's office/court and police units to evaluate the incident. The quality and validity of forensic evidence, especially in sexual crimes, is seriously affected both physically and chemically by the victim's actions after the incident and the passage of time [23]. Completing the forensic examination procedure of patients classified as forensic cases promptly is crucial for ensuring the accuracy and reliability of the forensic investigation [24].

Conclusion

We emphasize that the cases of pregnancy detection during the waiting period (iddah), which constitute the majority of patients referred to obstetricians and gynecologists, especially by legal and judicial units, for the preparation of forensic reports, can be significantly reduced if the legislator reorganizes this requirement in accordance with universal legal norms. In addition, instead of gynecologists and obstetricians alone preparing forensic reports for many forensic patients, such as sexual assault, violence against women, and hymen exams in cases of rape, the establishment of specialized centers with forensic experts, psychologists, and staff trained in combating forensic crime will be an approach that both shares the workload and achieves safer investigation results.

References

- Oguz P, Cem U. History of forensic medicine in Turkey. *Leg Med (Tokyo)* 2009; 11(3): 107–110. doi: 10.1016/j.legalmed.2009.01.002.
- McGregor MJ, Du Mont J, Myhr TL. Sexual assault forensic medical examination: is evidence related to successful prosecution? *Ann Emerg Med* 2002; 39(6): 639–647. doi: 10.1067/mem.2002.123694.
- Terece C, Gürpınar K, Büyüktak K et al. Evaluation of medical malpractice claims in obstetric ultrasonography: Opinion of The Council of Forensic Medicine in Turkey. *J Forensic Leg Med* 2021; 84: 102257. doi: 10.1016/j.jflm.2021.102257.
- Odabaşı NP, Akpınar B. Evaluation of 132th Article of Civil Code on Waiting Period (Iddet Duration) in the Light of Women's Rights and Modern Medical Developments. *J Fe* 2018; 10(10): 112–119. doi: 10.1016/j.jfe.2018.07.004.
- Gilmore AK, Ward-Ciesielski EF, Smalling A et al. Managing post-sexual assault suicide risk. *Arch Womens Ment Health* 2020; 23(5): 673–679. doi: 10.1007/s00737-020-01026-3.
- Campbell R, Dworkin E, Cabral G. An ecological model of the impact of sexual assault on women's mental health. *Trauma Violence Abuse* 2009; 10(3): 225–246. doi: 10.1177/1524838009334456.
- Abriat F, Benali L, Gromb S. Hymenal examination of under age children with a context of sexual assault. *Gynecol Obstet Fertil* 2012; 40(2): 129–133. doi: 10.1016/j.gyobfe.2011.12.008.
- The Lancet Regional Health-Americas. Violence against women and girls: more RE-SPECT needed. *Lancet Reg Health Am* 2024; 30: 100696. doi: 10.1016/j.lana.2024.100696.
- Durrance CP, Hankins S. Medical malpractice liability exposure and OB/GYN physician delivery decisions. *Health Serv Res* 2018; 53(4): 2633–2650. doi: 10.1111/1475-6773.12769.
- Eksi A, Uddin A. Application of Maintenance during the Waiting Period ('idda'): A Perspective from Ottoman and Turkish Civil Law. *IUMLJ* 2023; 31(2): 347. doi: 10.31436/iiumlj.v31i2.792.
- Gözler K. Turkish constitutional law. *Ankara Univ J Fac Polit Sci* 2000; 55(04). doi: 10.1501/SBFder_0000001936.
- Çakmut ÖY. Determination of lineage and crime of changing child's lineage in criminal law. *Beta* 2008. doi: 10.12738/CEJ.2019.6.001.
- Aktürk İY. The problem of waiting period and limited marriage prohibition specific to women. *Baskent Univ J Fac Law* 2019; 9(2): 195–208. doi: 10.22368/ruzgar.21.8.10.
- Welch J, Mason F. Rape and sexual assault. *BMJ* 2007; 334(7604): 1154–1158. doi: 10.1136/bmj.39135.586900.BE.
- Tavara L. Sexual violence. *Best Pract Res Clin Obstet Gynaecol* 2006; 20(3): 395–408. doi: 10.1016/j.bpobgyn.2006.01.007.
- Holmes MM, Resnick HS, Kilpatrick DG et al. Rape-related pregnancy: estimates and descriptive characteristics from a national sample of women. *Am J Obstet Gynecol* 1996; 175(2): 320–325. doi: 10.1016/S0002-9378(96)70141-2.
- Farahi N, McEachern M. Sexual assault of women. *Am Fam Physician* 2021; 103(3): 168–176. doi: 10.1600/0002-9378-103-3-0168.
- Faller KC. Child sexual abuse: an interdisciplinary manual for diagnosis, case management, and treatment. New York: Columbia University Press 1988.
- Heger AM, Emans SJ, Muram D. Evaluation of the sexually abused child: a medical textbook

Publication ethics: The Editorial Board declares that the manuscript met the ICMJE uniform requirements for biomedical papers.

Publikační etika: Redakční rada potvrzuje, že rukopis práce splnil ICMJE kritéria pro publikace zasílané do biomedicínských časopisů.

Conflict of interests: The authors declare they have no potential conflicts of interest concerning the drugs, products or services used in the study.

Konflikt zájmů: Autoři deklarují, že v souvislosti s předmětem studie/práce nemají žádný konflikt zájmů.

Dedication: The study received approval from the Local Council of the Etlik Zübeyde Hanım Gynecology Training and Research Hospital (Approval No. E-900057706-799; 19,08,2022/10).

Dedikace: Studie byla schválena místní radou Gynekologické školici a výzkumné nemocnice Etlik Zübeyde Hanım (č. schválení E-900057706-799; 19,08,2022/10).

and photographic atlas. Oxford: University Press 2000.

20. Nations U. Declaration on the elimination of violence against women. New York: UN 1993.

21. Asencios-Gonzalez ZB, Vara-Horna AA, McBride JB. Intimate partner violence against women and labor productivity: the mediating role of morbidity. *Violence Against Women* 2013; 30(11): 2828–2852. doi: 10778012231163572.

22. Lorvick J, Lutnick A, Wenger LD et al. Non-partner violence against women who use drugs in San Francisco. *Violence Against Women* 2014; 20(11): 1285–1298. doi: 10.1177/1077801214552856.

23. Freedman E. Clinical management of patients presenting following a sexual assault. *Aust J Gen Pract* 2020; 49(7): 406–411. doi: 10.31128/AJGP-11-19-5176.

24. Adefuye AO, Egenasi CK, Benedict MO. Forensic evidence preservation following an incident of rape: the role of the victim. *S Afr Fam Pract* 2024; 66(1): e1–e5. doi: 10.4102/safp.v66i1.5792.

ORCID authors

C. Ateş 0000-0002-4200-2659

B. Dilbaz 0000-0003-1137-8650

Submitted/Doručeno: 18. 6. 2024

Accepted/Přijato: 10. 10. 2024

Çağlayan Ateş, MD
Obstetrics and Gynecology Department
University of Health Sciences
Etlik Zubeyde Hanim Training
Research Hospital
Yeni Etlik Cad, No. 55
06010, Yenimalle, Ankara
Turkey
caglayanctf@hotmail.com

Poděkování recenzentům

Thanks to reviewers

Redakce časopisu Česká gynekologie děkuje všem laskavým recenzentům, kteří v průběhu roku 2024 posuzovali práce doručené do redakce. Velmi si vážíme nezištné pomoci a času, který jste věnovali hodnocení příspěvků a snaze zvýšit odbornou kvalitu našeho časopisu.

prim. MUDr. Zdeněk Adamík, Ph.D., Zlín
doc. MUDr. Tomáš Binder, CSc., Ústí n. Labem
prof. MUDr. Jiří Bouda, Ph.D., Plzeň
doc. MUDr. Igor Crha, CSc., Brno
doc. MUDr. Jiří Dostál, Ph.D., Olomouc
doc. MUDr. Tomáš Fait, Ph.D., Praha
doc. MUDr. Lukáš Hruban, Ph.D., Brno
doc. MUDr. Robert Hudeček, Ph.D., Brno
MUDr. Hynek Heřman, Ph.D., MHA, Praha
prof. MUDr. Roman Chmel, Ph.D., Praha
prim. MUDr. Radek Chváta, Znojmo
MUDr. Petr Janků, Ph.D., Brno
prof. MUDr. Vladimír Kališ, Ph.D., Plzeň
prim. MUDr. Peter Kaščák, PhD., Trenčín
doc. MUDr. Jaroslav Klát, Ph.D., Ostrava

doc. MUDr. Michal Koucký, Ph.D., Praha
prof. MUDr. Milan Kudela, CSc., Olomouc
prof. MUDr. David Kužel, CSc., Praha
prof. MUDr. Michal Mára, CSc., Praha
doc. MUDr. Tonko Mardešić, CSc., Praha
MUDr. Radim Marek, Ph.D., Olomouc
prof. MUDr. Jaromír Mašata, CSc., Praha
doc. MUDr. Luboš Minář, Ph.D., Brno
prof. MUDr. Ivana Kacerovská-Musilová, Ph.D., Hradec Králové
MUDr. Marta Nováčková, Ph.D., Praha
doc. MUDr. Michal Pohanka, Ph.D., Brno
MUDr. Marek Pluta, Ph.D., Praha
prof. MUDr. Martin Procházka, Ph.D., Olomouc

prof. MUDr. Aleš Roztočil, CSc., Jihlava
doc. MUDr. Iva Sedláková, Ph.D., Hradec Králové
prof. MUDr. Jiří Sláma, Ph.D., Praha
MUDr. Martina Studničková, Ph.D., Olomouc
MUDr. Pavla Svobodová, Ph.D., Praha
prof. MUDr. Jiří Špaček, Ph.D., Hradec Králové
doc. MUDr. Kamil Švábík, Ph.D., Praha
MUDr. Radovan Turyna, Ph.D., Praha
doc. MUDr. Vít Unzeitig, CSc., Ostrava
prof. MUDr. Pavel Ventruha, CSc., Brno
MUDr. Radovan Vlk, Praha
prof. MUDr. Jozef Záhumenský, PhD., Bratislava