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Чипирование педофилов как альтернатива химической кастрации

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АННОТАЦИЯ

Обоснование. В статье рассматривается возможность чипирования лиц, совершивших преступления сексуального характера в отношении несовершеннолетних, как альтернатива химической кастрации. Тот факт, что вопрос о наказании за преступления против половой неприкосновенности несовершеннолетних менее приоритетен, чем вопрос о предупреждении данных преступлений, подтверждает неутешительная статистика.

Цель исследования — выявление преимуществ и недостатков технологии чипирования педофилов в сравнении с их химической кастрацией.

Материалы и методы. В ходе работы проведён анализ действующего законодательства Республики Казахстан по вопросу химической кастрации и чипирования педофилов. С целью определить положительные и отрицательные стороны применения технологии чипирования в отношении педофилов использован SWOT-анализ.

Результаты. В настоящее время чипирование отдельных категорий граждан не легализовано, тем не менее уже есть пример законодательного урегулирования применения электронных средств слежения в отношении подозреваемых и осуждённых лиц. К таким средствам вполне могут быть отнесены и биочипы, при этом обоснована целесообразность закрепления чипирования в уголовном законодательстве в качестве ещё одной принудительной меры медицинского характера.

Заключение. Чипирование дешевле по сравнению с химической кастрацией с экономической точки зрения и более безопасно — с медицинской. Единственное, в чём чипирование пока уступает химической кастрации, это в вопросе законодательного регулирования и безопасности данных, решение которых — вопрос времени.

Авторами сделан вывод, что использование технологии чипирования в отношении педофилов является более эффективной и дешёвой альтернативой их химической кастрации. Проведённый SWOT-анализ позволил определить сильные и слабые стороны чипирования педофилов, а также возможности данной технологии и потенциальные угрозы её применения. В результате выявлено преобладание сильных сторон применения рассматриваемой технологии над слабыми.

Ключевые слова: чипирование; педофилы; химическая кастрация; биометрический чип; принудительные меры медицинского характера; электронные средства слежения.

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Chipping pedophiles as an alternative to chemical castration

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ABSTRACT

BACKGROUND: This study considers chipping of persons who have committed sexual crimes against minors as an alternative to chemical castration. The fact that the issue of punishment for crimes against sexual inviolability of minors is less prioritized than the issue of prevention of these crimes is confirmed by disappointing statistics.

AIM: To identify the advantages and disadvantages of chipping pedophiles in comparison with chemical castration.

MATERIALS AND METHODS: This study analyzed the current legislation of Kazakhstan on the issue of chemical castration and chipping of pedophiles. SWOT analysis was used to determine the positive and negative aspects of chipping in pedophiles.

RESULTS: Currently, the chipping of certain categories of citizens is illegal; however, there exists a legislative regulation of the use of electronic means of tracking suspects and convicted persons. Such means may well include biochips, and the expediency of enshrining chipping in criminal legislation as another coercive measure of medical nature has been substantiated.

CONCLUSION: Chipping is cheaper than chemical castration from an economic point of view and safer from a medical point of view. The only reason chipping remains inferior to chemical castration is the issue of legislative regulation and data security, the solution of which is a matter of time.

In conclusion, chipping pedophiles is a more effective and cheaper alternative to chemical castration. SWOT analysis showed the strengths and weaknesses of chipping pedophiles and the opportunities of this technology and potential threats to its use. Thus, the predominance of the strengths of technology over its weaknesses was revealed.

Keywords: chipping; pedophiles; chemical castration; biometric chip; compulsory medical measures; electronic tracking devices.

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恋童者体内植入芯片，作为化学阉割的替代措施

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摘要

论证。本研究介绍对未成年人实施性犯罪的人体内植入芯片的可能性。芯片植入被视为化学阉割的替代措施。对妨害未成年人权利不可侵犯的惩罚问题不如预防这种罪行的问题重要。令人失望的统计数字证实了这一事实。

该研究的目的是确定对恋童者的芯片植入技术与化学阉割相比有什么优缺点。

材料与方法。作者对哈萨克斯坦共和国关于对恋童者进行化学阉割和芯片植入的现行法律进行了分析，采用SWOT分析法确定了对恋童者芯片植入技术的利弊。

结果。目前，对某些类别公民的芯片植入尚未合法化。不过，已经有立法规定对嫌疑人和已决犯使用电子追踪装置。生物芯片很可能被视为这种装置。同时，将芯片植入作为另一种医疗性强制措施及列入刑事法律是合理的，这一点已经得到证实。

结论。从经济角度看，芯片植入比化学阉割便宜，从医学角度看，芯片植入更安全。唯一仍不如化学阉割的是立法控制和数据安全问题。这些问题的解决只是时间问题。

作者得出的结论是，对恋童者使用芯片植入技术是一种比化学阉割更有效、更便宜的替代措施。通过SWOT分析，可以确定对恋童者使用芯片植入技术的优势和劣势，以及该技术的能力和使用该技术的潜在威胁。结果显示了，该技术的优势大于劣势。

关键词：芯片植入；恋童者；化学阉割；生物识别芯片；强制医疗措施；电子追踪装置。

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BACKGROUND

Criminal acts against the sexual integrity of minors are especially dangerous crimes that cause severe harm to life and health and have severe consequences, resulting in considerable public outcry. Statistics show the need to apply specific measures against pedophiles. However, in the Republic of Kazakhstan, despite a decrease in the number of cases, the number of criminal offenses against children remains consistently high (2,088 in 2021, 2,005 in 2022, and 1,261 for 6 months of 2023). Moreover, in 2022, 719 minors were victims of crimes against their sexual integrity (833 and 920 in 2020 and in 2021, respectively)¹. Specifically, the increase in crimes against sexual integrity was registered in the regions of Pavlodar (from 23 to 36 [57%]), Aktobe (from 21 to 31 [48%]), Mangistau (from 32 to 35 [9%]), and North Kazakhstan (from 31 to 33 [6%]) and the city of Almaty (from 46 to 53 [15%]), and the highest rate was noted in the Almaty (87%), Karaganda (70%), and Turkestan (63%) regions².

These crime statistics showed a disappointing trend in the spread of pedophilia (disorder of sexual preference). According to the International Classification of Diseases (ICD), pedophilia refers to a group of disorders of sexual preference manifested as a constant or predominant sexual preference for children of prepubertal (10–14 years) or early puberty (5–10 years) age, and it is defined separately in ICD-10 (F65.4 Disorder of sexual preference)³.

Currently, the only treatments for a “disorder of sexual preference” are drug therapy to suppress sexual desire or chemical castration; however, they are not an established remedies for pedophilia, although they do demonstrate a decrease in relapses of such crimes. In this regard, the most promising direction is improving the record-keeping and supervision of pedophiles. Constant monitoring of their movements and locations by law enforcement agencies can help prevent relapses. One of the ways to control and monitor perpetrators of sexual crimes against children is chipping. Implanting microchips with GPS trackers in such criminals is proposed to more easily track their movements and control their actions.

Proponents of chipping pedophiles argue that such measures will effectively control and restrict the freedom of movement of dangerous individuals, preventing contact with potential victims and repeat crimes and ensuring the safety of children. However, chipping-related issues have led to serious discussions and dispute from different perspectives.

This study aims to identify the advantages and disadvantages of chipping pedophiles compared with chemical castration.

MATERIALS AND METHODS

This study analyzed the current legislations of Kazakhstan regarding the chemical castration and chipping of pedophiles. A strategic planning method such as SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis was used to determine the positive and negative aspects of chipping in relation to pedophiles.

RESULTS

Analysis of the current legislations of Kazakhstan regarding the chemical castration and chipping of pedophiles

In Kazakhstan, chemical castration has been used as a compulsory medical measure since January 1, 2018⁴. According to cl. 5, part 1, Art. 91, of the Criminal Code of the Republic of Kazakhstan (RK CC), the court can impose such measures on persons aged 18 years and above who committed a criminal offense against the sexual integrity of minors⁵.

Since 2020, pedophiles have been deprived of the right to early parole, amnesty, and pardon⁶.

After those convicted of sexual crimes against minors are released from prison, they are registered and subject to administrative supervision by law enforcement agencies for 5–8 years.

¹ Committee on Legal Statistics and Special Accounts of the General Prosecutor's Office of the Republic of Kazakhstan [electronic resource]. Access mode: <https://gis.kgp.kz/>. Access date: 09/20/2023.

² Decree of the Government of the Republic of Kazakhstan dated August 31, 2023, no. 748 “On approval of the Comprehensive Plan for the protection of children from violence, suicide prevention, and ensuring their rights and well-being for 2023–2025” [electronic resource]. Access mode: https://online.zakon.kz/document/?doc_id=38449466&pos=4;-106#pos=4;-106. Access date: 09/20/2023.

³ International Classification of Diseases, Tenth Revision (ICD-10) [electronic resource]. Access mode: <https://mkb-10.com/>. Access date: 09/20/2023.

⁴ Order of the Minister of Health of the Republic of Kazakhstan dated June 15, 2017, no. 423 “On approval of the Rules for the use of chemical castration” (repealed) [electronic resource]. Access mode: <https://adilet.zan.kz/rus/docs/V1700015399>. Access date: 09/20/2023; Order of the Minister of Health of the Republic of Kazakhstan dated December 15, 2020, no. KR DSM-262/2020 “On approval of the rules for applying compulsory medical measures” [electronic resource]. Access mode: <https://adilet.zan.kz/rus/docs/V2000021810#z6>. Access date: 09/19/2023.

⁵ Criminal Code of the Republic of Kazakhstan dated July 3, 2014 No. 226-V ZRK [electronic resource]. Access mode: <https://adilet.zan.kz/rus/docs/K140000226>. Access date: 09/20/2023.

⁶ Law of the Republic of Kazakhstan dated December 30, 2020 No. 393-VI ZRK “On introducing amendments and additions to some legislative acts of the Republic of Kazakhstan on the implementation of certain provisions of the Address of the Head of State to the people of Kazakhstan dated September 1, 2020 “Kazakhstan in a new reality: time for action” [electronic resource]. Access mode: <https://adilet.zan.kz/rus/docs/Z200000393>. Access date: 09/20/2023.

Notably, national legislators interpret the concept of victims, against whom crimes of the nature in question may be committed, broadly. The RK CC refers to crimes against the sexual integrity of minors who have not reached the age of 14 years and persons who have reached the age of 14 years but have sexual integrity.

Disclosing the type of compulsory medical measures, in cl. 5, part 1, Art. 93, of the RK CC, the legislator establishes such types of medical measures as chemical castration and treatment for propensity toward sexual violence and disorders of sexual preference. Thus, the national criminal legislation largely aims to implement an approach to not only prevent the possibility of these individuals committing sexually violent crimes in the future but also eliminate the cause; that is, curing a mental disorder associated with a tendency for sexual violence and a disorder of sexual preference.

When considering the feasibility of improving compulsory measures and treatments, the legal confirmation by criminal law of the mechanism for implementing applied compulsory measures after a person has served their sentence is noteworthy. Thus, part 3, Art. 93, of the RK CC establishes that upon the release from prison of persons convicted of crimes against the sexual integrity of minors, the court should resolve the issue of assigning, extending, changing, or terminating compulsory measures of a medical nature. Six months before the planned release, a sanitary and psychological examination of the convicted pedophile is performed; these results are sent to the court [1–3], and the judicial body decides whether to perform chemical castration based on the results.

The chipping of convicted offenders has not yet been established by law. However, within the framework of digitalization, the application of electronic means of tracking against suspects and convicted persons, including biochips, is one of the effective tools used across the world. The use of electronic tracking tools is a key component of the future electronic monitoring system in Kazakhstan. As part of this system, all law enforcement agencies of the state shall use electronic means of supervision, control, tracking, and other methods of remote surveillance.

In Kazakhstan, during the probation period, the use of electronic tracking devices is based on the decision of the head of the probation service. The rules, conditions, and grounds for the use of electronic tracking tools are enshrined in the relevant decree of the government of the republic⁷.

Currently, the General Prosecutor's Office of the Republic of Kazakhstan has created an electronic map of pedophiles.

As of September 2023, this web resource provides information about 386 persons prosecuted for criminal acts against the sexual integrity of minors⁸. However, several human rights defenders and public organization representatives in Kazakhstan dispute the practice of posting such information. They believe that providing such information about a person, even if they have committed a serious crime against a minor but have served their sentence, is a form of public condemnation and deprives the person of the opportunity to rehabilitate themselves in the opinion of society [4]. Moreover, the need for legislative regulation of the posting of a citizen's personal information, including their place of residence or workplace, have also been proposed, as well as amendments to the current legislation so as not to be limited only to departmental orders⁹.

Chipping, which is similar to the existing mobile phone tagging system, may be a solution to these issues. Using the GPS module and geolocation system, the chip's location can be traced if needed. However, in this case, an individual number should be assigned to each person who has committed sexual crimes against minors and is located on the territory of Kazakhstan. For this category of citizens, the organic chip suspension can be introduced by injection or tagging that would continuously transmit a detection signal. This data can be loaded into a single, strictly confidential database with different access levels.

The system of cellular antennas for receiving and transmitting an individual chip's data will ensure a constant signal with the exact coordinates of the person's location to a local satellite. All information will be constantly updated, saved, and stored in special databases until access to information is requested. Access to this database will be provided by a specially created authority either permanently or once upon request. Additionally, the chip can send an alarm signal when the pedophile approaches areas where children gather (e.g., a school, kindergarten, playground, or play center) and when an unauthorized attempt is made to remove the chip from the body. Thus, the database will contain round-the-clock information about the movements of any person at risk and their exact location on the territory of Kazakhstan.

The possibility of chipping has been studied by national and international scientists. Alikperov [5] notes the positive aspects of chipping as a preventive measure against kidnapping, particularly of children, murder, labor slavery, and the removal of human body organs. Furthermore, it is possible to use chipping in the application of procedural measures of restraint not related to imprisonment. In these

⁷ Decree of the Government of the Republic of Kazakhstan dated December 24, 2014 No. 1369 "On approval of the Rules, conditions and grounds for the use of electronic tracking means" [electronic resource]. Access mode: <https://adilet.zan.kz/rus/docs/P1400001369>. Access date: 09/20/2023.

⁸ Committee on Legal Statistics and Special Accounts of the General Prosecutor's Office of the Republic of Kazakhstan [electronic resource]. Access mode: <https://gis.kgp.kz/>. Access date: 09/20/2023.

⁹ Order of the Prosecutor General of the Republic of Kazakhstan dated February 27, 2018, no. 29 "On approval of the Rules for maintaining, using and storing special records of persons who have committed criminal offenses, prosecuted and held criminally liable and dactyloscopic records of detainee, held in custody and sentenced persons" [electronic resource]. Access mode: <https://adilet.zan.kz/rus/docs/V1800016667>. Access date: 09/20/2023.

cases, online monitoring of the convicted person is performed.

International researchers, inspired by the ideas of chipping food and general consumer goods and by successful experiments in introducing biochips into the genetic material of animals, are seriously considering the possibility of using chips to control human behavior. For example, Roache investigated the issue of implanting a chip into a human body, which helped control their movements and simulate their actions¹⁰.

However, we must not forget about the ethical aspect and constitutional human rights. Chipping raises concerns about the possible misuse of information and violation of the right to privacy. In contrast, our society, especially children who are potential victims, also have rights. These aspects involve complex legal, ethical, and technical issues that require serious discussion and research. Thus, we believe that there is an urgent need to develop, publish, and approve statutory instruments that will define the conditions, procedure, and procedural issues of chipping with mandatory public discussion.

DISCUSSION

Advantages and disadvantages of chipping pedophiles as an alternative to chemical castration

Like any technology, chipping has its advantages and disadvantages. We compare its use with chemical castration.

Medical aspect. Chemical castration is the use of drugs that block the action of the male hormone testosterone, resulting in complete suppression of sexual desire. However, the effect of the drug lasts a limited period of time and only

while it is injected into the body of the convicted person. When the procedure is stopped, male function is restored, meaning that the pedophile can again engage in harmful behavior toward children.

Testosterone is crucial for the normal functioning of the male body, as this hormone affects various processes. Suppressing testosterone with the use of special drugs can lead to serious side effects, including the development of irreversible chronic diseases, namely, diabetes mellitus, kidney problems, increased risk of heart attack, stroke, and depression and general apathy.

Currently, two types of microchips can be used: passive and active. RFID tags¹¹ with active data transmission are equipped with a built-in battery that enables the transmission of information over long distances and have their own memory. The only obstacle is its size (about the size of a cigarette lighter), which results in more painful chipping and removal. Meanwhile, compact passive chips are often a small capsule measuring 2 × 12 mm, which is covered with biologically neutral glass. As a rule, chips are implanted in the hand between the thumb and index finger, where there is more fat (Fig. 1)¹². The shell material is compatible with human tissue; hence, the installation of the microchip usually does not cause inflammation. Such glass has been used in medicine, namely, in dentistry and surgery, for a long time. The capsule is often sutured along the palm from the little finger side, where it is not felt. Meanwhile, larger chips are placed in the forearm.

Currently, chipping is a reversible process, as capsules and flexible chips can be removed through a simple surgical operation. Chips have an indefinite validity period; however, like any RFID device, a biochip can be demagnetized at certain intervals. The device is so small that it is invisible and does not inconvenience its owner. Such chips perform



Fig. 1. Biometric chip.

¹⁰ Roache R. How Technology Could Make «Life in Prison» a Much Longer, Tougher Sentence [electronic resource]. Access mode: <https://slate.com/technology/2013/08/daniel-pelka-ariel-castro-how-life-extending-technology-could-make-a-life-sentence-tougher-and-longer.html>. Access date: 09/20/2023.

¹¹ RFID: Radio Frequency Identification.

¹² «Chips under the skin: freedom or total control?» [electronic resource]. Access mode: <https://mentamore.com/covremennye-texnologii/chipy-pod-kozhu.html>. Access date: 09/20/2023.

the function of a “beacon” or personal identification, and they can be recognized through a mobile communication system.

Chipping as a compulsory medical measure can be used in institutions of confinement and in healthcare organizations providing outpatient psychiatric care for convicted persons. The installation can be monitored by a psychiatrist from a healthcare organization providing outpatient psychiatric care. Minimal Medical risks are associated with chip installation — the main requirement is the use of sterile instruments (Fig. 2) [6].

Economic aspect. In Kazakhstan, the drug cyproterone, an antiandrogenic synthetic derivative of progesterone, which is known as the “pregnancy hormone,” is used for chemical castration. This hormone is typically produced in the body of men in minimal quantities. The retail price of the drug is 11,500 tenge (2,300 rubles). It must be administered once every 10–14 days. According to the data, the state spends approximately 126,000 tenge per year per pedophile. However, not all convicted pedophiles undergo this procedure. In addition, psychiatric therapy is employed due to medical conditions for which the administration of cyproterone is contraindicated¹³.

Therefore, chipping pedophiles appears to be much more reasonable than chemical castration from an economic viewpoint. This is due to the fact that chip implantation is performed only once, that is, its cost includes only the prices of the chip itself and the installation procedure (Table 1)¹⁴. Moreover, there is no need, as in the case of chemical castration, to control the timely implementation of compulsory medical measures, as the chip is installed once until the moment it must be removed.

Data protection. The main risk associated with chipping is the possibility of unauthorized data access, bypassing security systems, removing or deactivating microchips, and

Table 1. Cost of microchips for humans

Manufacturers of human microchips	Country of manufacture	Chip price
Dangerous Things	USA	RFID: \$57; NFC: \$99
I Am Robot	Germany	RFID: \$30; NFC: \$60
BioTeq	UK	~\$40
Biohax International	Sweden	\$180 (chip + installation)
Three Square	USA	RFID: \$50

making errors in monitoring. This can reduce the effectiveness of the measure; therefore, manufacturing companies should focus on ensuring the security of biometric chips.

Legislative regulation. The possibility of using chipping is only being discussed, whereas chemical castration is already regulated by law. Chipping raises issues of constitutional rights, among others; however, given the feasibility of applying this technology to certain categories of citizens, national legislators should develop appropriate statutory instruments based on their experience with the legal use of electronic tracking tools. Moreover, chipping should be enshrined in Art. 93 of the RK CC as one of the compulsory medical measures.

Thus, we can conclude that the use of chipping in relation to pedophiles is more effective and cheaper than chemical castration.

SWOT-analysis

The ongoing debate about chipping certain citizens, in particular pedophiles, is open and forms two opposite fronts; however, as with any crucial problem, a scientific approach that analyzes all the advantages and disadvantages should



Fig. 2. Subcutaneous chip insertion kit.

¹³ V. Nikolaev, “What is the cost of chemical castration of one pedophile in Kazakhstan [electronic resource]. Access mode: <https://www.nur.kz/incident/crime/1740636-skolko-stoit-himiceskaa-kastracia-odnogo-pedofila-v-kazhastane/>. Access date: 09/20/2023.

¹⁴ “Chips under the skin: freedom or total control?” [electronic resource]. Access mode: <https://mentamore.com/covremennye-texnologii/chipy-pod-kozhu.html>. Access date: 09/20/2023.

Table 2. SWOT analysis of the application of chipping technology for pedophiles

Strengths	Weaknesses
<ol style="list-style-type: none"> 1. Chipping provides an error-free personal identification process in a matter of seconds. 2. Chipping of pedophiles will create a database of 24-hour information about their exact location on the territory of Kazakhstan. 3. Biochips are a cheap alternative to chemical castration of pedophiles. 4. Minimal medical risks. 	<ol style="list-style-type: none"> 1. Like any RFID device, a biochip can be demagnetized at certain intervals. 2. There are few legislative regulations of the process of chipping certain categories of citizens.
Opportunities	Threats
<ol style="list-style-type: none"> 1. Chipping can facilitate administrative control over released pedophiles, as it becomes possible to track the movements of the chipped person and determine their location. 2. It is possible to regulate the issues of chipping in the legal field by analogy with the legislative implementation of the use of electronic tracking tools. 	<ol style="list-style-type: none"> 1. Unauthorized access to data, bypass of security systems, and the removal or deactivation of microchips are possible. 2. Human factor (errors in monitoring are possible). 3. The use of chipping can cause public outcry and give rise to social tension. 4. In some cases, the body can reject a foreign body (biochip); the lack of knowledge about possible contraindications to the use of chipping technology should also be considered.

be used. Table 2 presents a SWOT analysis, the results of which showed the predominance of the strengths of using this technology.

CONCLUSION

Currently, the technical implementation of chipping certain categories of citizens, in particular pedophiles, is relatively feasible. Owing to rapid technological developments, the cost of technical components associated with programming and storing large amounts of information constantly reduces; therefore, the introduction of a chipping system is worth considering.

The creation of special units for the development, technical aspects, and implementation of this project will significantly reduce the crime rate, which will positive impact the quality of life of citizens and increase the attractiveness of the republic for investors. However, this project cannot be implemented without legislative support. Thus, the participation of national legislators is required, considering the opinion of the public and advisability of using the chipping technology in relation to certain categories of citizens of the country.

Chipping does not guarantee complete safety; therefore, such measures should be used in combination with programs of psychological assistance and rehabilitation of criminals. Overall, the chipping of pedophiles is a complex, controversial issue that requires in-depth discussions and research into its effectiveness, ethical implications, and legal basis.

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ

Источник финансирования. Авторы заявляют об отсутствии внешнего финансирования при проведении исследования.

Конфликт интересов. Авторы декларируют отсутствие явных и потенциальных конфликтов интересов, связанных с публикацией настоящей статьи.

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