© 2021 Ratkoceri. This article follows the Open Access policy of CC BY NC under Creative Commons attribution v 4.0.

Submitted: 15/09/2021 - Accepted: 21/10/2021 - Published: 30/12/2021

Chemical Castration of Child Molesters – Right or Wrong?

Vedije Ratkoceri

Law Faculty, South East European University – Tetovo – Macedonia

DOI: 10.26417/ejser.v11i1.p70-76

Abstract

Studies have shown that recidivism rates among child sexual offenders are very high. Therefore, the number of children victimized by paedophiles is also very high. In most of the cases, offenders committing these crimes suffer from paraphilia – categorized as a mental disorder by the psychological sciences. Thus, imprisonment for this category of child abusers obviously is not the answer. That's why a lot of states have tried to incorporate in their legislations a medical treatment useful to prevent recidivism of paedophiles and to protect the children. Chemical castration is merely a type of hormone therapy that takes away the offender's sexual desire. There can be some unpleasant side effects, but they are mostly reversible and this paper tries to argue that this procedure is humane and necessary to prevent child molesters. The first part of this paper examines paedophilia, chemical castration procedure and will show data from studies made mostly in USA to see the efficiency of this procedure. The second part of this paper examines the growing trend by legislators towards favoring castration as a sentencing alternative and explains the reasons for this trend. This part finds that this trend is a necessary response to a failing criminal justice system.

Keywords: paedophilia, chemical castration, child molesters, depo-provera, criminal legislation

Introduction

Sexual abuse of children is undoubtedly one of the worst and most serious crimes with long-term consequences for the victim and his family and social circle. Childhood from medical, psychological and pedagogical disciplines is considered a crucial period for the future development of children as individuals and as citizens. The importance

of this period for further development makes it necessary for children to be given special care to meet their development needs. Unfortunately, however, they may be often victims of various abuses, either inside their own family or from someone outside. They may be victims of various forms of violence. But what is considered to be the worst form of abuse, which adversely affects the well-being, the growth of the child's development and which has long-term consequences in their lives is undoubtedly their sexual abuse.

Given the high risk posed by these criminal offenses, the fragile nature of victims which often do not understand what is happening to them, and above all, considering that pedophilia today is considered a mental disorder, states should undertake measures for medical treatment of the perpetrators for these offenses, in addition to the harsh penalties. This is supposed to be achieved through the incorporation of pharmacological-medical treatment or so called chemical castration of perpetrators of criminal offenses in the criminal laws of contemporary states.

Child Sexual Abuse and Paedophilia

In the daily vocabulary the sexual abuse of children is also known as pedophilia, while individuals who commit sexual abuse against children are known as pedophiles. However, the medical and psychological literature reveals distinct differences between these two terms and we will try briefly to make clear the difference between pedophile and sexual abuser. It turns out that although these terms are often used as synonyms for each other, there are concerns about the possibility of accurately categorizing pedophilia and sexual abuse of children

According to the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; 1)*, pedophilia is considered a mental disorder. Many studies indicate that sexual abusers of children may or may not have paraphylic disorders and thus individuals are categorized as pedophiles (a person who needs to be cured). Pedophilia is one among many disorders loosely categorized as paraphilia-psychosexual disorders such as transvestitism, exhibitionism, sexual masochism, and sexual sadism in which unusual or bizarre imagery or acts are necessary for realization of sexual excitement (Winslade, Stone, Smith-Bell, & Webb, 1998).

As a particular paraphilic disorder, pedophilia is a desire or preference for sexual relations with prepubertal children (Winslade, Stone, Smith-Bell, & Webb, 1998). According to the *American Psychiatric Association* pedophilia is defined as intense and persistent sexual interest in prepubescent children. Some pedophiles seek same gander victims (homosexual pedophiles), others seek opposite gender victims (heterosexual pedophiles) and some don't care about gender. This type of offender is more concerned with committing a sexual assault with a child than concerning himself with the gender of his victims (Stevens, 2001). The most common child molester sexually assaults his own children or those of someone he knows ((Leberge, 1997) cited by (Stevens, 2001).

Pedophilia is classified as a particular type of paraphilia, which is defined as "recurrent, intense sexually arousing fantasies, sexual urges, or behaviors generally involving (Siverts, 2005):

1) nonhuman objects,

2) the suffering or humiliation of oneself or one's partner, or

3) children or other non-consenting persons that occur over a period of at least six months.

The Diagnostic and Statistical Manual of Mental Disorders gives the following criteria for pedophilia (Winslade, Stone, Smith-Bell, & Webb, 1998):

1) An impairment lasting at least 6 months, with recurrent and intense sexually arousing fantasies, sexual urges, or behaviors that involve sexual activity with a prepubescent child or children (generally age 13 years or younger);

2) Fantasies, sexual urges, or behaviors that cause clinically significant distress or impairment in social, occupational, or other important areas of functioning; and,

3) The impaired person is at least aged 16 years, and at least 5 years older than the child or children.

From these definitions, it is clear that a pedophile is not a sex offender until he engages in a legally proscribed act (Absent the act, a person cannot generally be compelled to undergo treatment or otherwise be charged with a crime or be incarcerated simply because the person has a pedophilia disorder) *see* (Winslade, Stone, Smith-Bell, & Webb, 1998).

The definition of the crime of the child sexual abuse depends from the criminal legislation of each state particularly. For example, the Criminal Code of the Republic of Macedonia this crime defines in the Article 188 – "Sexual assault against a child who has not attained 14 years" where in the 1st paragraph it's appointed that this crime it is committed by anyone who will have a sexual intercourse or other sexual activity with a child who has not attained 14 years old.

The literature of the field distinguishes and categorizes four categories of child sexual abusers.

Fitzigerlad (1990) devided sex offenders into four types:

Type I – denies the commission of the crime or the criminal nature of the act;

TypeII – confesses to the commission of the crime, but places the blame for the crime on nonsexual or non-personal forces, such as alcohol, drugs, or stress;

Type III - is the violent criminal who is motivated by nonsexual gain, such as anger, power, or violence;

Type IV- is the paraphiliac who exhibits a pattern of sexual arousal, erection and ejaculation, which is characterized by a specific fantasy or its actualization.

The categorization of child molesters is very important because as we can see from this categorization not every child sexual abuser is appropriate subject to chemical castration.

Of the four different types of sex offenders, only Type IV offenders (paraphiliacs), "feel remorse or guilt" and are "unable to 'control' [their] behavior". Therefore, only Type IV offenders will respond to Depo-Provera (the medicament used for chemical castration) treatment because the other three types either deny their behavior (Type I), project blame for their behavior (Type III), or enjoy exercising violent urges (Type VI), thus not admitting that their behavior is out of control or inappropriate (Peters, 1993). Accordingly, chemical castration laws should only apply to paraphiliacs (Type IV) and should not apply to the other three types of sexual offenders, because the treatment may not reduce their recidivism rates (Peters, 1993).

A child molester may have one or more causes for his conduct. Some offenses against children are committed by individuals who have some degree of mental retardation and a consequent inability to appreciate the difference between appropriate and inappropriate sexual behavior. An individual with an antisocial personality may commit sexual offenses against children simply because it is hurtful (See Berlin & Meinecke, supra note 26, at 602 cited by (Moog, 1999).

In most states that provide chemical castration in their legislation either as a medical treatment or as a punishment for child sexual abusers, the imposition of this treatment is in voluntary basis and usually the individual who agrees to undergo this treatment either is sentenced to lower penalties (for example, the case of the Republic of Macedonia) or the application of chemical castration is a condition for parole (for example, California legislation). Therefore, if chemical castration is imposed on an individual who does not actually need medical treatment because his criminal behavior is influenced by other factors as discussed above, then misuse of this measure may occur or in other words this treatment will be useless (the offender may repeat the crime).

Chemical castration appears to be ineffective in antisocial or psychopathic sex offenders who do not suffer from paraphilia (Berlin 2009 cited by (Douglas, Bonte, Focquaert, Devolder, & Sterckx, 2013).

Chemical Castration as a Criminal Sanction for Child Molesters

The crime of raping a child is so abhorrent that many states adopted laws that called for the death penalty for the commission of such crimes (D'Avella, 2006) cited by (Tullio, 2010). However, sentencing these offenders to death is no longer constitutional and those who are released often reoffend and end up back in prison

(Tullio, 2010), therefore it is very necessary to find other mechanisms and humane methods for treating these offenders.

Castration is probably more familiar to the public as a form of punishment. One of the first uses of castration in the United States occurred during the 1800's, "when slaves were routinely castrated as a punishment if suspected of having relations with white women" (Druhm, 1997). In Europe, castration was done on modern psychiatric indication for the first time in Switzerland in 1892, as an imbecile was cured of his neuralgic pains from the testes and his "hypersexuality" (Sturup, 1972) cited (Heim & Hursch, 1979). The Nazis employed it from about 1935 to 1945 as a “security” measure to protect Germany’s racial purity from the Jews, Gypsies, homosexuals, lunatics and “others” (Chaney, 2006).

Even the punishment of sexual offenders with castration is not a new concept. Indeed, the idea of castration as a punishment does not originate in the United States. In fact, it appeared centuries before the colonization of America. For example, in ancient times, invading armies often castrated their captives as punishment for what they dared to be their enemies (William L. Baker, 1984). In biblical times, rapists received blinding and surgical castration as punishment (Berlin, 1997). Browe a Jesuit priest has studiously documented the history of castration in religion and law with copious references. According to him, Babylonian king, Hammurabi (about 1955-1913 B.C.) formalized the ancient law of retaliation “eye for an eye, tooth for tooth” known as Lex Talionis which called for castration for those who castrated someone else. Egyptian law called for the same punishment for anyone who had forced sex on a free woman. Late Roman law called for the same punishment for those who had sex with animals. The old pagan Frisian code of the Salic Franks, issued about 507 AD, used it for anyone who had stolen something dedicated to the gods. Self-castration was allowed in lieu of being buried alive or death by fire (Jacobs (1973) cited by (Chaney, 2006).

When talking about castration as a treatment for sexual perpetrators, namely sexual child abusers, the literature recognizes two types of castration: surgical castration and chemical castration.

Physical castration, or orchiectomy, is a surgical procedure in which a man’s testes are removed. This causes a dramatic drop in the levels of testosterone in the body which severely decreases a man’s sex drive (Tullio, 2010). Surgical castration is an irreversible procedure. The procedure itself is fairly simple, involving a small incision made in the scrotum so the testes can be removed; it is not considered major surgery and can be done on an outpatient basis (Druhm, 1997).

Surgical castration as an invasive procedure which involves removal of human organ it is considered as an unusual and cruel procedure which violates human rights. As so, many states that had surgical castration in their legislation either removed it or replaced it with chemical castration. Even that the use of surgical castration in now

days is limited, it still happens in Europe and USA (for example the case of Czechs Republic or the case of the state of Texas).

Researchers in the 1960s, seeking alternatives to prison or surgical castration, studied chemical castration as a means of "curbing the sexual appetite of sex offenders" (Tsang (1995) cited by (Berlin, 1997). The term "chemical castration" describes a medical treatment that uses anti-hormonal drugs to block the release of hormones, resulting in significantly lower testosterone levels and sex drives in men (Murray, 1998). Chemical castration consists of administering the medication periodically, usually in the form of an injection, which extinguishes sexual libido (Kambovski, 2015). While chemical castration sounds almost barbaric, it is one of the more civilized forms of treatment that has been used on sexual predators. It is merely a type of hormone therapy that takes away the offender's sexual desire (Harrison, *supra* note 1, at 21–28 cited by (Tullio, 2010) There can be some unpleasant side effects, but they are mostly reversible, and overall, there is little pain and suffering associated with the procedure (Tullio, 2010).

The first reported use of the hormonally based medications in order to reduce pathological sexual behavior in men occurred in 1944 when the progesterone hormonal compound diethylstilbestostrol was prescribed to lower male testosterone (Holmberg & Scott, 2003).

Medroxyprogesterone acetate (MPA), also known by brand names Clinovir, Cycrin, Depo-Provera, and Hystron, is the hormone used for chemical castration in the United States. MPA first came to the market to treat gynecological problems in females (Pitula, 2009). This drug ''was first synthesized in 1954 [by the Upjohn Company] and was initially introduced in 1959 as a treatment for gynecological disorders. Depo Provera was first used as an effective way to reduce men's sex drive in 1958 (Philip J. Henderson, 1998) cited by (Daley, 2008). Depo-Provera is a legitimate, non-experimental treatment used around the world in the treatment of paraphilia disorders (Fitzgerald, 1990). In the United States, the first research with MPA was performed in 1966 by Dr. Money who treated a male bisexual transvestite who was engaged in an incestuous relationship with his six year old son (Fitzgerald, 1990).

In most cases, the reduction of sexual behaviors and the complete disappearance of deviant sexual behaviors and fantasies are observed after 1-2 months of treatment (Garcia, Delavenne, Thibaut, & Assumpção, 2013). MPA is able to reduce the occurrence of sexual imagery and lessen the offender's level of sexual. Essentially, the drug causes the brain to believe the body has enough testosterone and so it does not allow the testicles to produce anymore (Gimino III, 1997). The effect is a reduction in the levels of testosterone in the offender's blood down to that of a pre-pubescent male within one to two weeks; this low level of testosterone greatly lowers the offender's sex drive (Tullio, 2010).

A review of the studies indicates the following possible physiological side effects: 1) no change in blood pressure; 2) no change in body chemistry; 3) the possibility of

weight gain; 4) a dramatic decrease in sperm count; 4) normal basal insulin levels, but also hyperinsulinaemic response to a glucose load; 6) possible irregular gallbladder functioning and diverticulitis while on long term therapy; 7) infrequent fatigue or lethargy; 8) testicular atrophy; 9) diabetis mellitus; 12) no breast changes ((Walker, supra note 10) cited by (Fitzgerald, 1990)).Other reported effects include hot and cold flashes, phlebitis, headaches, insomnia, nausea, nightmares, dyspnea, hyperglycemia, leg cramps, loss of body hair, and increased basal body temperature. Most of the reported side effects are extremely rare. All of the side effects are reversible once the treatment ceases (Fitzgerald, 1990).

Proponents of chemical castration argue that the side effects are comparable to medications used to treat other diseases. Every commercial for a prescription drug ends with a long list of side effects that can range from minor discomfort to life-threatening problems; what is so different about the side effects for antiandrogen drugs? (Pitula, 2009).

Except MPA (Depo-Provera) there is another medicament used for the same purpose, mostly in Europe. Cyproterone acetate CPA decreases testosterone production by competitive inhibition of testosterone and dihydrotestosterone in androgen receptors. Cyproterone acetate (CPA), marketed under the names Androcur, Cyprone, Cyprostat, and Dianette, is not officially approved in the United States, but is used in Canada, the United Kingdom and Germany. Comparative studies of MPA and CPA are difficult because the drugs are not available in the same countries (Pitula E. , 2009).

Recidivism Among Chemically Castrated Child Molesters

The Johns Hopkins University's National Institute for the Study, Prevention and Treatment of Sexual Trauma has been studying MPA and using it to treat certain sexual disorders since 1966 (Fitzgerald, 1990). In one study of twenty paraphilics, only three of twenty men had reoccurrences of deviant sexual behavior while on the medication, an eighty-five percent success rate (See Berlin & Meineke, supra note 26, at 604 cited by (Moog, 1999).

A University of Texas study, conducted from 1976 to 1980, revealed that only one offender, out of twenty-five treated with Depo-Provera, committed an act of paraphilia while being treated (Green, supra note 40 cited by (Berlin, 1997).

Also, in a 1991 study conducted at Johns Hopkins University, "fewer than ten-percent of 626 patients chemically castrated with Depo - Provera committed sexual offenses five years after treatment (Rundle, supra note 4 cited by (Berlin, 1997).

Chemical Castration – A New Trend in the State Legislations

Today, chemical castration is used in many states, whether as a punishment or as a medical treatment for sex offenders, mainly for the perpetrators of sexual crimes against children.

Chemical Castration is a part of criminal legislations in many states including USA, Argentina Australia, Estonia, Israel, Moldavia, New Zealand, Poland, Russia, Denmark,

Germany, Hungary, France, Norway, Finland, Iceland, Lithuania, United Kingdom, Belgium, Sweden, Macedonia, Turkey, Indonesia etc.

According to a research made by the (Institute for Criminal Justice Reform, 2016) the precise structure or formulations of laws that provide chemical castration differ in important ways in each jurisdiction. The following three alternatives are of some use in categorizing these laws. First, the administration of chemical castration as a form of treatment may be "voluntary" in the sense that chemical castration will only be considered, and is only lawful, if a person is convicted of certain types of offences and ***consents*** to such treatment. This is reportedly the case in a number of jurisdictions, including England and Denmark. Secondly, a law relating to chemical castration may be "discretionary". Chemical castration may be a sentencing option that a court ***may*** impose if a person has been convicted of a certain offence, along with any other sentence (such as imprisonment). But the court does not have to impose it. If the Court does impose it as a sentence, then the sentenced person is required to undergo the treatment. Thirdly and finally, a law may be "mandatory". If a person is convicted of certain types of offences, then the court ***must*** impose the sentence of chemical castration (as well as any other sentence, such as imprisonment). Typically, laws that provide that a sentence involving chemical castration is *mandatory* are applicable when an offender *re-offends* (Institute for Criminal Justice Reform, 2016).

Sweden, Germany and Denmark were among the first countries to allow chemical castration, as an alternative to the surgical form which is also permitted. It is significant that in these countries it is utilized solely as a voluntary treatment (Wilson, 2007). Meanwhile, in certain legislation, chemical castration is incorporated as a sanction (USA, Poland, Estonia etc.), while in others (Great Britain, Germany etc.) is used as a medical treatment for sexual abusers with their consent (Kambovski, 2015). In USA, California was the first state to enact a compulsory chemical castration law. Any person convicted for the second time of forcible or statutory rape will be automatically required to undergo chemical castration as a condition of parole (Wilson, 2007). The treatment will continue until the State considers it is necessary and it is not required to include medical staff in this process.

In USA, chemical castration is foreseen in the legislation of eight states. Legislation in Georgia, Montana, Oregon, and Wisconsin provides for chemical castration only; California, Iowa, Florida, and Louisiana permit both chemical and surgical castration; and Texas allows only surgical castration. In some cases where chemical castration is offered it is formally optional and no link is made between refusal to consent to it and further incarceration; in others chemical castration is mandated as a condition of release; and in others still it is mandated with no formal link to release (Douglas, Bonte, Focquaert, Devolder, & Sterckx, 2013).

Unlike the United States which has only recently enacted chemical castration statutes, several European countries have had castration statutes on the books for quite some time. Denmark was the first country to create a castration law in 1929 (Daley, 2008).

Denmark was the first to establish a comprehensive law on June 1, 1929, under Chapter XXIV of the Danish Criminal Code concerning punishments for rape, pederasty, and other sex crimes. This law was amended on May 11, 1935, with more details concerning permission to castrate offenders. Forced castration was never employed under Danish laws however (Chaney, 2006) . Sweden passed a castration law in 1944, Finland passed a law in 1970 and Norway enacted its castration law in 1977 (Daley, 2008).

In Europe, the mandatory chemical castration is envisaged in the Penal Code of Poland, with the reform of the Polish Penal Code in 2009 which envisages the mandatory chemical castration for perpetrators of the criminal offense "Sexual Assault of a Child under the Age of 15 Years" (Trendafilova & Bozhinovski, 2015).

The Estonian Parliament has approved chemical castration for sex offenders in 2012 and according to the legislation, courts will be able to impose a course of medical treatment on sex offenders, who would be obliged to take special medication for up to three years. Chemical castration may also be a precondition for the offender to be released on parole (https://sputniknews.com/voiceofrussia/2012_06_05/77079747/).

The French Government in 2005 and the United Kingdom in 2007 have introduced chemical castration legislation. In both countries it is a voluntary procedure (Wilson, 2007). According to media report in 2012, in Great Britain around one hundred child sex offenders have undergone chemical castration under a government program to reduce the likelihood of them reoffending in jails (http://www.telegraph.co.uk/news/uknews/law-and-order/9139845/Paedophiles-chemically-castrated-in-British-jail.html).

In the criminal legislation of the Republic of Macedonia, chemical castration is incorporated as a criminal sanction in 2014 and with this Macedonia became the first country in the region (Balkans) which treats child molesters with medical treatment. Chemical castration in Macedonia was incorporated as a security measure (medical – pharmacological treatment) for the perpetrators of the offense of sexual assault on a child who has not reached the age of 14 as provided in Article 188 of the Criminal Code. In our legislation the imposition of this measure needs the consent of the perpetrator of the criminal offense, so, it is on a voluntary basis. "Compensation" for voluntary submission to such medical treatment is the reduce of the sentence of imprisonment, respectively, the perpetrator will serve half of the sentence. For instance, if for the criminal act is sentenced life imprisonment, the court may impose to the offender a sentence to imprisonment of 40 years; if for the criminal act imprisonment of 40 years is sentenced, the Court may impose to the offender a sentence of 20 years of imprisonment; and if criminal act is punishable by 20 years of prison, the court may impose the minimum prison sentence prescribed for that criminal act as long as the perpetrator agrees to undergo chemical castration treatment, which will last until the end of his life or until the Court estimates that is

necessary to take the treatment (paragraph 2, 3 and 4 of the Article 65- a of the Criminal Code) see (Ratkoceri, 2017). It is a obligatory treatment among imprisonment when the offender is a recidivist.

Turkey has authorized chemical castration in 2016. Individuals convicted of sex offences may be chemically castrated while they are serving time or during the control period if they are conditionally released.

Conclusions

The issue of chemical castration is a controversial topic in many scientific circles, dividing researchers and scientists in two campuses, pro et contra. To some extent, both sides have their own facts and arguments that support one side or the other. However, given the latest trends of states, namely the incorporation of this sanction in many legislations recently, it is clear that states have decided to fight pedophilia with medical treatment.

The reason for this may be the fact that sexual abuse of children by pedophiles is a growing trend and the rate of recidivism is very high in these cases, as well as the specifics of victims (where children are concerned) who need absolute protection from such crimes.

Considering that paraphilia is defined as a mental disorder, pharmacological medical treatment is almost inevitable and more than necessary. We consider that the use of chemical castration on voluntary basis on individuals who consider that they can't control their sexual urges and need medical help, is a right thing. However, its mandatory imposition to cases of recidivism also has a certain justification, since it is argued that imprisonment hasn't fulfill its main goal, re-socialization, and that these individuals can't control their sexual urges. Therefore, for the sake of protecting potential victims, such perpetrators should be assisted with medical treatment (chemical castration).

Chemical castration is not an inhuman and denigrating punishment. It is a simple procedure that does not cause suffering or pain in the individual. It is a treatment that helps people suffering from certain disorder and as such as long as it is proved to be successful, we consider that it should be used.

Bibliography

[1] Berlin, J. (1997). Chemical castration of sex offenders: "a shot in the arm" towards rehabilitation. *Whittier Law Review , 19(1),* , 169-213.
[2] Chaney, V. T. (2006). *A Brief History of Castration: Second Edition* (Kindle Edition ed.). AuthorHouse.
[3] Daley, M. V. (2008). A Flawed Solution to the Sex Offender Situation in the United States: The Legality of Chemical Castration for Sex Offenders. *Indiana health Law Review, 5*, 87.

[4] Douglas, T., Bonte, P., Focquaert, F., Devolder, K., & Sterckx, S. (2013). Coercion, Incarceration, and Chemical Castration: An Argument From Autonomy. *J Bioeth Inq. 10(3)* , 393–405.
[5] Druhm, K. W. (1997). A Welcome Return to Draconia: California Penal Law§ 645, The Castration of Sex Offenders and the Constitution . *61 ALB. L. REV. 285,286-87* .
[6] Fitzgerald, E. A. (1990). Chemical Castration: MPA Treatment of the Sexual Offender. *18 Am. J. Crim. L. 1 1990-1991, 18:1 (1990)*.
[7] Garcia, F. D., Delavenne, H. G., Thibaut, F., & Assumpção, A. (2013). Pharmacologic Treatment of Sex Offenders With Paraphilic Disorder. *Curr Psychiatry Rep 15:356 .*
[8] Gimino III, P. J. (1997). Mandatory Chemical Castration for Perpetrators of Sex Offenses Against Children: Following California's Lead,. *25 PEPP. L. REV. 67* , 74-75.
[9] Heim, N., & Hursch, C. J. (1979). Castration for Sex Offenders: Treatment or Punishment? A Review and Critique of Recent European Literature ~. *Archives of Sexual Behavior, 8* (3).
[10] Holmberg, T., & Scott, C. L. (2003). Castration of Sex Offenders: Prisoners' Rights Versus Public Safety. *J Am Acad Psychiatry Law 31* , 502–9;.
[11] Institute for Criminal Justice Reform. (2016). *Review of Laws Providing for Chemical Castration in Criminal Justice.* South Jakarta: Institute for Criminal Justice Reform.
[12] Kambovski, V. (2015). *Komentar na Krivicniot Zakonik na Republika Makedonija (Vol. II).* Skopje: Matica.
[13] Law on Amendments and Addendums of the Criminal Code, Official Gazette of Republic of Macedonia No. 27.2014
[14] Moog, A. (1999). California Penal Code Section 645: Legislators Practice Medicine on Child Molesters. *15 J. Contemp. Health L. & Pol'y 711 .*
[15] Murray. (1998). California's Chemical Castration Law: A Model for Massachusetts? . *C Criminal and Civil Confinement , [Vol. 24:729]* .
[16] Peters, K. A. (1993). Chemical Castration: An Alternative to Incarceration (comments). *Duquesne Law Review, 31* (2), 307-328.
[17] Philip J. Henderson. (1998). Note, Section 645 of the California Penal Code: California's "Chemical Castration" Law-A Panacea or Cruel and Unusual Punishment?, . *32 U.S.F. L. REv. 653, 654* .
[18] Pitula, E. (2009). An Ethical Analysis of the Use of Medroyprogesterone Acetate and Cyproterone Acetate to treat Repeat Sex Offenders.
[19] Pitula, E. (2009). An Ethical Analysis of the Use of Medroyprogesterone Acetate and Cyproterone Acetate to treat Repeat Sex Offenders.
[20] Ratkoceri, V. (2017). Chemical Castration as a security measure in the criminal legislation of the Republic of Macedonia. *International Journal of Social Sciences and Education Research, 3(2),* , 356-360.

[21] Siverts, J. B. (2005). Punishing thoughts too close to reality: a new solution to protect children from pedophiles . *Thomas Jefferson Law Review, 27:393*.
[22] Stevens, D. J. (2001). *Inside The Mind of Sexual Offenders: Predatory Rapists, Pedophiles, And Criminal Profiles.* Lincoln: Authors Choice Press.
[23] Trendafilova, A. D., & Bozhinovski, A. (2015). Chemical Castration - The new security measure in the Macedonian criminal legislation. *International Journal of Research in Applied, Natural and Social Sciences (IMPACT: IJRANSS) ISSN(E): 2321-8851; ISSN(P): 2347-4580, 3* (10), 43-50.
[24] Tullio, E. M. (2010). Chemical Castration for Child Predators: Practical, Effective, and Constitutional. *Chapman Law Review, [Vol. 13:191, 2009]* , 191-220.
[25] William L. Baker. (1984). Castration of the Male Sex Offender: A Legally Impermissible Alternative,. *30 LoY. L. REv. 377* , 379.
[26] Wilson, D. (2007). The legal implications of chemical castration of sex offenders in criminal law. *Australasian Law Teachers Association - ALTA 2007 Refereed Conference Papers. .* Australasian Law Teachers Association - ALTA.
[27] Winslade, W. T., Stone, H., Smith-Bell, M., & Webb, D. M. (1998). Castrating Pedophiles Convicted of Sex Offenses against Children: New Treatment or Old Punishment,. *51 SMU L. Rev. 349 (1998)* .