

Is Oleoresin Capsicum (Pepper Gas) A Safe Way of Implementing Force for Riot Control? - A Force Continuum Policy Transfer

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Abstract: Police forces sometimes carry out duties under life-threatening conditions. In such situations, police should quickly determine the appropriate level of the continuum of force to establish better law and order. Pepper gas became a strong method for balancing force to control the riots. The main purpose of law enforcement in OC exposure is to support the force continuum levels' effectiveness within human rights understanding, to stop the assailants' actions, and to decrease the risk of getting injured both by the police and riots. Pepper gas is not a substitute for weapons at the force continuum levels, but it is a supporting means of force implementation during riots. Although the police use of force was born of the idea of preventing the suspect from harming himself or the other party, this situation is closely related to reliability. This study aims to review the scientific literature on OC's long- and short-term effects, investigate the legal regulations governing the force continuum through a policy transfer approach, and propose two additional levels of pepper gas use to end disproportionate force discussions by implementing pepper gas usage after verbal warning and before baton use.

Key Words: Pepper gas, riot control, long-term effect, short-term effect, force continuum, policy transfer

Introduction

The need for law, order, and justice has existed for ages. The legislature took responsibility for the police use of force to establish a sustainable balance. Because the law enforcement agencies were occasionally performing duties in life-threatening situations and being subjected to violence, there was a need for the police to decide which level of force should be used. It is another fact that the police had mostly limited instruments to stop the assailant behaviours of the intoxicated, drug addicts, and mentally ill. In such situations, either the police or the people were injured because of the insufficient methods at hand to be used for riot control. That is why there is serious scientific research worldwide on the force continuum and police use of force. OC, an organic, sticky, and inflammatory substance derived from cayenne pepper, was first used by law enforcement agencies (Concepts and Issues Paper, 1995). Since 1980, pepper spray has been used by law enforcement forces around the world as a non-lethal (or less-than-lethal) tool (Junior et al., 2019).

The short- and long-term effects of pepper gas need to be evaluated scientifically for the people in riots and under custody as well. Hence, the oleoresin capsicum, as an alternative to the police use of force technique for riot control, must be analysed and evaluated for its toxicological properties. All techniques that enable the police to easily cuff suspects are of utmost importance.

Chemical agents are commonly used to control riots, causing no permanent health problems. The main principle in riot control is to create temporary effects on the eyes, skin, mouth, nose, and respiratory system that enable law enforcement agencies to take control (Anderson, 1996). Many different riot control agents were produced using various solvents in their respective contexts. OC spray, aka pepper gas, an incapacitated agent that causes intense irritation of the mucous membrane and skin irritation, is accepted by law enforcement agencies as an effective method for riot control (Onnen, 1993; Rumsfield, 1991). The organic OC agent contains capsaicin, the active ingredient of the cayenne pepper plant product. The capsaicin in the content of OC is very potent on trigeminal pain receptors, mainly the mouth, nose, stomach, and mucosal membranes (Govindarajan &

Sathyanarayana, 1991). Carrier agents such as oil, alcohol, or kerosene are usually used in OC dispersion (Chambers, 2000).

Hence, there appeared to be a need to take control of riot control chemical agents because of the strong public reaction against them. Many biological tests were performed, including plethysmography studies in animals, which examined the effects of OC on the respiratory tract. The ventilation, frequency, and volume of the respiratory tract were studied on live rats by inhaling through the nose. The solvents used in these chemicals are also considered to affect the respiratory system. Law enforcement agencies need more powerful riot-control agents to subdue the delirious state of mind. This can be achieved by enabling a chemical effect to reach the nerve edges. These effects and symptoms are observed in the eyes, skin, and respiratory tract (Punte et al., 1963). It has also been reported that such people can be resistant or immune to pepper gas (Edwards et al., 1997; Granfield et al., 1994; ACLU of Southern California, 1995). This can make it difficult to control such persons (Edwards et al., 1997). Acute effects of capsaicin have been reported as bronchospasm, respiratory arrest, pulmonary edema, hypertensive crisis, hypothermia, and serious respiratory and cardiovascular effects (Stopford, 1996; Olajos & Salem, 2001). The pathological findings of OC are still debated. Some researchers state that OC is a secure riot control agent, but there is still a discussion about whether it causes death or has long-term side effects. Some researchers believe there is no solid physiological data to support it. This suggests that the long-term effects of OC are not yet well defined. There is insufficient research on the long-term mutagenic and carcinogenic effects, despite studies in animals (Busker & van Helden, 1998; Olajos & Salem, 2001). As some research indicates that a single dose cannot pose a long-term cancer risk, there is no conclusive evidence of long-term risk (Busker & van Helden, 1998). There is also insufficient evidence regarding changes in biochemical parameters in blood samples from persons exposed to OC, whether in a closed or open environment (Seyhan, 2010).

The effect on the respiratory tract is the primary and most potent effect in controlling the assailants. The inflammatory effect on the tract, coughing, and choking feeling in the chest incapacitate the person. The first common symptoms in exposed people are apnea and gasping (Punte et al., 1963). The effects of these symptoms mainly depend on the concentration ratio and exposure duration. In the literature, these symptoms are described as temporary and without long-term effects (Anderson et al., 1996). However, it was stated that it was more potent in people with asthma and created asthma aggravation. It is also discussed whether OC exposure is safe for people with pre-existing respiratory system deficiencies (Hu, 1989). Some studies also concluded that the death cases after OC exposure are the result of the gas's effect on the respiratory system (Chapman & White, 1978). The chemical agents used for self-defence require further scientific study to assess their side effects. Upshall (1973) stated that there is a strong need for its safety to carry out studies to determine on which organs the riot control agents have acute, sub-acute, and chronic toxicity effects.

In OC production, solvents such as dichloromethane, trichloroethylene, and tetrachloroethylene are often used. These solvents are known to irritate the respiratory system. It was reported that some died after exposure to OC dissolved in these solvents. However, it was also noted that the role of oleoresin capsicum alone in the deaths could not be clearly defined (Govindarajan & Sathyanarayana, 1991). Steffee et al. (1995) reported that intense pain was observed in the conjunctiva and regular physical changes when the solution was sprayed onto the mucous membrane. When rats were exposed to the OC at different dosages, intense reactions in the eyes, conjunctiva, and the erratum, difficulty breathing, putting their heads under their legs, and nestling were observed. Dicipinigaitis et al. (2001) investigated the coughing production effect of capsaicin on 4833 experimental subjects. It was stated that temporary throat irritation was observed in many of them. It was also noted that there was no permanent damage, except in 7 cases of bronchoconstriction. This was concluded that capsaicin does not have any serious side effects.

Abnormality in breathing or any death cases were not observed when spraying the 0,5 m³ test tube with 72 gr OC. Even with this intense exposure, there were no deaths within 15 minutes. In the pre-experiment study, it was observed that two rats were in coma like agony when 100 g of pepper gas was sprayed into a volume of 0,35 m³. It was also stated that nose and ocular irritation, nose run, voice backing, producing sputum, and dyspnoea were observed after exposure to hypersensitive bodies (Ternesten et al., 2002; Ceyhan and Karakurt 2002; Dicpinigaitis et al., 2005). Bronchoconstriction decreased and resolved within less than 60 seconds in healthy and asthmatic individuals (Fuller et al., 1985).

Although capsaicin was reported to be mutagenic and tumorigenic in some cell culture studies, a study found that the mutagenic and tumorigenic effects of vinyl carbamate or nitrosodimethylamine were chemo protected by capsaicin (Surh et al., 1995). Chan et al. (2002) stated in a study on 81 patients coming to the emergency after exposure to OC by police forces that all the patients were cured on foot without any hospitalization. The same study stated that no abnormal spirometric findings, hypoxemia, or hypoventilation were observed.

The harmful side effects of OC on corneal structure and sensitivity were studied. Although one exposure did affect corneal tissue, mechanical and chemical sensitivity persisted for a week (Vesaluoma & Tervo, 1998). In the same study, the reason for this sensitivity was linked to possible damage to the polymodal nociceptor fibril and to the corneal nerve tip. It was also stated that OC has moderate, temporary effects on corneal structure and function, and that unaccredited solvents used for spraying can cause severe corneal damage (Tervo et al., 1979). Dicpinigaitis and Rauf (1998) stated that ocular damage is primarily due to the alcohol content of the OC rather than the oleoresin capsicum. It is also known that isopropyl alcohol in the OC content is not harmful. Another study found that OC exposure did not alter O₂ or CO₂ levels in the lungs' vital capacity (Czarnecki, 2001).

The effects of oleoresin capsicum were studied on blood gases, electrolytes, and selected biochemical parameters in rats at different dosages and time points. Despite the supporting biochemical changes for respiratory acidosis, it was stated that OC may be a safe riot-control agent in the open air (Seyhan, 2010).

2. Evaluation of Oleoresin Capsicum and Law Enforcement Agencies

The efforts of police forces to find an effective and safe method to control the riots and the assailants continued for many years. Pepper gas has been considered the most effective for this purpose (Robin, 1996). While many people opposed the use of pepper gas, others opposed it only because of its place in the force continuum.

Although Sweden banned pepper gas because of its potential damage to the eyes, some European states, such as Belgium, Luxembourg, the Netherlands, and Switzerland, still use it (Chambers, 2000). It is also reported that the UK recommended police forces not to use pepper gas because of the negative health concerns. Contrary to UK recommendations, OC remains available to law enforcement agencies in both Australia and New Zealand (Doone, 1997).

Despite the claims that the deaths while in custody were caused by OC (Steffee et al., 1995), some studies claim that pepper gas has no or very low life-threatening risk factor (Ruddick, 1993). Some studies state that the death claims under custody were caused by positional asphyxia or pre-existing illnesses (Granfield et al., 1994; Petty, 1997; Steffee, 1995). Because of adverse opinions and studies on OC, some claim that pepper gas should be banned, while others oppose, creating a significant dilemma (Kaminski, 1998; Coile, 1997; Derbeken, 1997; Lee, 1997). Because numerous studies state that OC is the safest riot control agent (Bobb et al., 1996; Gauvin, 1994; Lump & Friday, 1997; Morabito & Doerner, 1997), Pliant (1993) also states in his study that it is wiser to wait for solid results of its short- and long-term side effects. Overall, pepper gas is an accepted riot control agent

commonly used in controlling assailants and riots (National Institute of Justice Technology Assessment Program, 1994). The main reason for this is to decrease the number of injuries in both the police force in action and the riots (McEwen & Leahy, 1994).

Contrary to Chloroacetophenone (CN) and chlorobenzylidene malononitrile (CS), which mainly cause pain and lacrimation, OC has an inflammatory effect on both the eyes and the skin (National Institute of Justice Technology Assessment Program, 1994), enabling law enforcement agencies to control assailants more easily. People under the effect of phencyclidine (PCP) can keep their eyes open when exposed to CN or CS and continue to resist. These people exhibit the same symptoms as normal people exposed to OC, including swollen eyes, eye closure, blinking, and gasping. It is known that CS causes gasping and mucus deflux by activating the receptor cells in the nerve system. However, people under the effects of drugs or alcohol are not affected because of the blocked neural transmitters (Morgan, 1999; Dimitroglou, 2015). However, swallowed pepper gas causes the mucus membranes to become swollen and remains effective (DuVernay, 1993). OC shows its effect immediately after the exposure, but CN and CS show it after 15 to 20 seconds (Kingshott, 1992).

One of the basic characteristics of the OC is the amount of capsaicin in the pepper spray (Czarnecki, 2001). This amount changes between 2% to 17%. Police forces commonly use OC at an intensity ratio of 5% to 10%. Because higher concentrations cause long-term effects beyond the desired level, they are not preferred for controlling riots. The effectiveness of OC mainly depends on the capsaicin concentration inside, not the percent concentration (Reilly et al., 2001).

Broadstock (2002) prepared a study about 93 potentially relevant articles, of which 37 were eligible for retrieval. According to this study, some minor short-term effects were recovered after an hour (Zollman et al., 1999). The subjects requiring medical care because of corneal abrasion and pulmonary toxicity are stated as 7 to 9% (Brown et al., 2000; Watson et al., 1996), and it is concluded that this could have resulted from OC spray. Another study stated that the results of OC usage training are consistent with emergency room studies of OC-exposed patients (Stopford, 1996). Still, medical experts have difficulty diagnosing the pathological effects of residual oleoresin capsicum (American Civil Liberties Union of Southern California, 1995). In the same study, it was reported that autopsy reports have rarely made direct links between pepper spray use and death (Steffee et al., 1995). However, only one autopsy report indicated that pepper spray was responsible for the death of a 24-year-old man with underlying pulmonary disease and a history of asthma (Steffee et al., 1995).

According to the European Court of Human Rights, people who want to disrupt or interfere with peaceful protesters must be protected (ECtHR, Plattform “Ärzte für das Leben”, 1988). Along with protecting both public and private property, the state should ensure that its law enforcement authorities provide equal protection to all participants in a nonviolent demonstration. Preventive security measures, such as having first-aid supplies on hand at demonstration sites, are said to be crucial for ensuring that any event runs smoothly (ECtHR, Giuliani and Gaggio v. Italy, 2011).

Law enforcement personnel must be well-versed in crowd facilitation and management strategies and be aware of the legislative framework governing protest policing. They should be knowledgeable about human rights law and principles, understand when restrictions on assembly may be imposed, and be aware of the boundaries of their power, particularly regarding the use of force. According to the 1990 Basic Principles, in the dispersal of assemblies that are unlawful but non-violent, law enforcement officials shall avoid the use of force, where that is not practicable, shall restrict such force to the minimum extent necessary’ (Basic Principles on the Use of Force and Firearms, 1990).

Clear guidelines for the suitably graduated use of force should be established at the national level. These guidelines should take into consideration the serious hazards associated with using some

less-lethal weapons, such as tear gas, to disperse protests and control crowds. It is not always less deadly. These weapons can and have killed people, even during demonstrations. In accordance with the 1990 Basic Principles, differentiated use of force should be employed, including weapons not intended to kill. However, it also stipulates that their development and use must be carefully controlled to reduce the possibility of endangering innocent people. Tear gas is not allowed to be used in combat, but it is allowed in law enforcement, including to quell domestic riots. (Chemical Weapons Convention, affirmed by the ECtHR, 1992).

Tear gas can only be used legally to disperse or prevent a crowd from approaching or moving into an area where violent acts are likely to occur, as well as to regulate crowd movement when there is a clear risk of violence and harm. (*Oya Ataman v. Türkiye*¹, Judgment 2006). The European Court of Human Rights has not always ruled that using tear gas to break up violent demonstrations is illegal. The Council of Europe's Parliamentary Assembly called on member states "to establish explicit guidelines regarding the use of pepper spray, or tear gas, and to forbid its use in confined spaces." (Parliamentary Assembly of the Council of Europe 2013). The establishment of explicit safety measures for the deployment of tear gas was another recommendation made by CPT.

International law encourages the development of non-lethal weapons, but it requires that they be carefully evaluated and their use strictly controlled. Since the early 1990s, many are reported to have died in police custody after being exposed to OC spray. While most deaths have been attributed to other causes, such as drug intoxication or positional asphyxia, or are unexplained, there is concern that OC spray could be a factor in some cases. Amnesty International also pointed out that there have been several dozen deaths of people after being sprayed with pepper spray in recent years. Although other factors are involved in most such deaths, there is concern that the spray has been a contributing factor in some cases.

Having regard to the effects pepper gases cause, and the potential health risks, the European Court of Human Rights (ECtHR) in many related cases notes that the use of pepper gas may produce side-effects such as respiratory problems, nausea, vomiting, irritation of the respiratory tract, irritation of the tear ducts and eyes, spasms, thoracic pain, dermatitis or allergies. In the ECtHR's view, where demonstrators do not engage in acts of violence, the public authorities need to show a certain degree of tolerance towards peaceful gatherings if the freedom of assembly guaranteed by Article 11 of the Convention is not to be deprived of all substance (*Oya Ataman v. Türkiye*, Judgment 2006).

Clearly, there is a need for policy transfer for law enforcement's use of pepper gas, aligning with international consensus.

3. Policy Transfer and Investigation of the Legal Documents Related to Oleoresin Capsicum

In the fast-changing, chaotic environment of the current global structure, governments and policymakers face unconventional problems that must be resolved. In some cases, these problems may have local or regional effects, while in others they may have large-scale impacts due to global diffusion. If the problems being faced have structural characteristics and the situation can be used as a window of opportunity, policymakers should start by facilitating the formulation of new policies.

¹ Turkey's name changed to Türkiye: According to the United Nations (UN)-Türkiye, following an official letter submitted to the United Nations by the Republic of Türkiye, the country's name has been officially changed to Türkiye at the UN upon a letter received on June 1 from the Turkish Foreign Ministry (UN-Türkiye. (2022). Turkey's name changed to Türkiye, URL: <https://turkiye.un.org/en/184798-turkeys-name-changed-turkiye>, 02.07.2022.

When emerging problems exhibit unusual characteristics or when it is not possible to provide a solution by implementing usual policies, decision-makers and/or policymakers must begin seeking other resources outside the country and/or the organization. Successful policies with proven, effective results and/or evidence-based historical best-practice learning may help achieve reasonable solutions more quickly. Alternatively, despite wasting time and financial resources by implementing untested, brand-new policies, governments and public organizations are seeking solutions from outside experts to ensure a successful outcome (Evans, 2004). In some cases, international organizations may require policymakers to implement new public policies. As Hafner-Burton and McNamara (2019) note, many public policies regulating the protection of fundamental human rights were proposed by international courts. Most of these bills propose concrete legal changes to US policy, and we may see similar situations for almost all other countries as well. The policy transfer concept emerged at this point, receiving notable attention in the public policy literature. This process is carried out as a voluntary policy transfer, in which new followers borrow policies from outsider states/organizations that successfully solved similar problems after implementing public policy. On the other hand, the process may develop as *harmonization progresses*, or it may be driven by coercive policy transfer through the efforts of authorized international organizations, in chaotic and time-consuming cases when it is very difficult or almost impossible to achieve immediate results. According to Rose (1991), in such cases, policy transfer or lesson drawing is a conventional and traditional application to provide solutions. It is worth mentioning here that, even if the policy transfer concept is not a completely newly invented phenomenon in administration history, its conceptualization and theoretical development provide explanations related to the transfer of policies from one place to another and/or from one time to another, which is its new face or what is new about the approach. Dolowitz and Marsh (1996)'s assertion that "policy transfer has been implemented in all ages, but it has gained an increasing acceleration after the 2nd World War due to the developments in the communication systems" also supports this assessment. Regarding developments in the human rights field, a similar path can be observed as well. Of course, neither humanity invents new bills every day in this field, nor do these new policies diffuse worldwide so rapidly. However, as asserted by Yon Soo Park and Benjamin Valentino (2019) "perhaps the most important progress in human rights over the last 200 years has come... from the expansion in the categories of humans who have been accepted as worthy of enjoying the same set of rights as socially dominant groups". For Park and Valentino (2019) the marginal movements "did not create new rights but simply sought to ensure that previously marginalized groups could share the same rights that others were already enjoying". After all, it is possible to mention that humans learn from others, groups learn from other groups, and states learn from other states' best practices. Hence, as a concept, policy transfer provides a helpful tool for human rights and riot control policies by uncovering the hidden features of progress.

Briefly defined, policy transfer is the process of drawing on the know-how of institutions, administrative regulations, and policies elsewhere or from past experiences to develop institutions, regulations, or policies in another time or place. Within this context, the main objective of this study is to introduce the concept of international policy transfer into the human rights field and, in that field, investigate the development of Türkiye's legal regulations regarding the use of Oleoresin Capsicum in riot control activities by law enforcement bodies.

The main questions to be answered via policy transfer analysis are: "How did the comprehensive international legal arrangements affect the national law enforcement regulations in OC within the historical context in Türkiye?", and "What was the main reason behind the transfer?" Within this frame, we tried to answer the following sub-questions:

- (1) What are the comprehensive legislative documents coming into force within the historical continuum in Türkiye and the international platforms related to law enforcement regulations in OC?
- (2) How did the comprehensive international arrangements affect the constitution of national legislation related to law enforcement regulations in OC in Türkiye?

- (3) What was the main reason behind this policy transfer?
- (4) If new regulations in Türkiye related to the law enforcement regulations in OC have come into effect, intending to harmonize the international arrangements, has the policy transfer process related to this domain been conducted under path-dependent pressure?

The research hypothesis is: “The main reason behind the policy transfer progress related to regulations in OC was adapting to international consensus.”

4. Methodology

This study was conducted within the framework of a qualitative research approach, using literature review and analysis of court decisions as research methods. No primary data collection methods, such as surveys, interviews, observations, or experiments, were applied in the study; the research was conducted entirely based on secondary sources.

The literature review was conducted systematically to establish a theoretical framework for the research topic and to present academic discussions. Within this scope, articles published in peer-reviewed academic journals, scientific books, book chapters, and reliable institutional reports were examined. Academic databases such as Google Scholar, Scopus, and Web of Science were used to access sources. Keywords were determined in line with the research questions and the study's conceptual structure, and the search was conducted using various combinations.

Court rulings were analyzed to strengthen the research's practical dimension. In this context, judicial precedents with exemplary value were examined, primarily those issued by high courts directly related to the subject matter. The criteria of timeliness, precedential value, and direct relevance to the scope of the work were taken as the basis for selecting the decisions.

The academic studies and court rulings examined were selected according to specific inclusion and exclusion criteria. Peer-reviewed publications, works considered fundamental in the field, and court rulings directly relevant to the subject were included in the research. Sources lacking academic merit and court rulings outside the scope of the subject were excluded from the study. To ensure scientific consistency in the research, cross-comparisons were made between academic sources and court rulings. The joint consideration of academic literature and judicial precedents enhances the analytical depth of the study and supports its methodological validity and reliability.

5. Findings and Discussion

After the investigation, it was found that the main reason for the constitution of the 1st Turkish Law on the domain, dated 1960 in Türkiye, was to align national norms with the fundamental rights enshrined in the Universal Declaration of Human Rights (1948). The European Convention on Human Rights (1953) regulates the fundamental rights and liberties and came into force in 1954.

Similar decrees regarding fundamental rights and freedoms are set out in the Constitution of the Republic of Türkiye, dated 1982. *Article 13* regulated the restrictions on fundamental rights and freedoms that were not contrary to the letter and spirit of the Constitution, the requirements of the democratic order of society, the secular republic, and the principle of proportionality. *Article 17* regulated the right to life and the right to protect and improve everyone's corporeal and spiritual existence, stating that no one shall be subjected to torture or maltreatment; no one shall be subjected to penalties or treatment incompatible with human dignity. Accordingly, *Article 19* regulates the right to personal liberty and security, stating no one shall be deprived of his/her liberty except in the cases stated, where procedure and conditions are prescribed by law. Pursuant thereto, under the section of “*Right to hold meetings and demonstration marches (As amended on October 3, 2001; Act No.4709)*”

Article 34 regulated the right to hold unarmed and peaceful meetings and demonstration marches without prior permission stating holding meetings and demonstration marches shall be restricted only by law on the grounds of national security, public order, prevention of commission of the crime, protection of public health and public morals or the rights and freedoms of others putting in a nutshell that the formalities, conditions, and procedures to be applied in the exercise of the right to hold meetings and demonstration marches shall be prescribed by law.

Similarly, the Chemical Weapons Convention (CWC), signed in Paris on 13 January 1993, entered into force in 1997 and harmonized the Turkish Code with international standards; the Amendments to the Turkish Code of Human Rights in 2014 harmonized the Turkish national legislation with the Human Rights of 2002. Thus, these findings prove evidence that, even if the national arrangements of the domain in Türkiye have started earlier than most of the international arrangements, the policy transfer efforts have gained acceleration after the development of the international standards on peaceful protest rights, and the main reason behind this process was “Adapting to the International Consensus”. It is also found that during the preparation phase of the “Codes” regulating and facilitating peaceful protests, which constitute the central national legislation in the domain, a large-scale investigation of international legislative documents on the topic was conducted alongside the previous national legislation. It is made to constitute a suitable code for cultural codes, rather than straightforward copying. That is why it is concluded that *the degree of policy transfer was hybridization rather than copying*. So, it is a kind of synthesis of the international legislation of the domain, adapted to national cultural and ethical codes as well.

To clearly investigate the issue, the relevant European Union (EU) and country examples of the laws within this frame are investigated as follows: E.g. in EU Regulation (EC) No 1907/2006 – “Registration, Evaluation, Authorisation and Restriction of Chemicals” regulates the “Prohibited/Controlled Activities”: “Manufacture, import, use, or placing on the market of certain hazardous substances unless registered, evaluated and authorised (Annex XIV) or restricted (Annex XVII). Substances of Very High Concern (SVHC) may be banned from use unless explicitly authorised and justified.” And the responsible authority is assigned as the European Chemicals Agency (ECHA). In Germany, the “Chemicals Act (Chemikaliengesetz – ChemG)” regulates the issue with almost similar wording as “Manufacturing, placing on the market or application of certain hazardous substances or mixtures can be prohibited or restricted by regulation based on this act.” And the responsible ministry is assigned as “Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV)” together with other federal bodies. In France, the relevant regulation reflects a straightforward copying format from the EU regulation with minor displacement of words as “Manufacture, import, distribution or use of chemicals without registration under REACH or correct classification/labeling under CLP is prohibited by law.” France has assigned three responsible ministries: “Ministry of Ecological Transition (Ecology) – designated authority for REACH implementation, and Ministry of Labour, and Ministry of Health – also share responsibility for CLP and risk management for worker/public safety.” On the other hand, in Türkiye, pursuant to Law No. 5564 dated 4 December 2006, the establishment and operation of any facility intended for the development, production or possession of toxic chemical substances and their precursors listed in the schedules annexed to this Law, as well as other chemical substances (other organic chemicals), for purposes not prohibited under this Law, are subject to the authorization of the Ministry of Industry and Trade; furthermore, the activities exempted under the fourth paragraph of Article 5 with respect to the chemical substances listed in Schedule (1) annexed to this Law are also subject to such authorization.

Thus, it can be understood that each country assigned different ministries and institutions within their administrative system. Furthermore, *in Türkiye*, Article 1 of the relevant Law provides that “any person who develops, produces, otherwise acquires, stockpiles, possesses, or directly or indirectly transfers chemical weapons to another person shall be sentenced to imprisonment for a term of five to eight years and to a judicial fine of up to fifteen thousand days”. Article 2 of the same Law further stipulates that “any person who uses chemical weapons shall be sentenced to imprisonment for

a term of ten to fifteen years and to a judicial fine of up to twenty thousand days”, thereby regulating the penalties applicable to persons committing offences in this regard. *In Germany* “War Weapons Control Act (implements CWC obligations) and general offences in the German Criminal Code (StGB §328)” regulates the punishment conditions as “Anyone who produces, keeps, transports, treats, processes, uses, imports, or exports dangerous substances (including potentially lethal chemicals) without the required authorization can be liable to imprisonment for up to five years or a fine.” On the other hand, *in France* while the Criminal Code itself does not specifically codify “chemical weapons” as a distinct offence in a standalone section, France criminalises a range of harmful acts (like poisoning) that can intersect with the misuse of toxic chemicals (Article 221-5 – Poisoning as a Crime): “Offence of Developing, Producing, Manufacturing, or Stockpiling Chemical Weapons: A person guilty of offences involving the development, production, manufacture, stockpiling or use of chemical weapons may face significant penalties including: Up to 30 years’ imprisonment, and a fine of up to €5,000,000 (\$5,859,673 USD). Penalties may be increased if the offence is committed by an organized group.”

To sum up, as can be understood from the current regulations of various countries and the EU, each country including Türkiye has regulated the issue within international standards but some differences especially for the assigned responsible authorities, and the penalties for the commitment of the criminal acts within the subject matter. These findings provide concrete evidence about why the degree of policy transfer process was evaluated as hybridization rather than straightforward copying.

If the process is evaluated in terms of convergence typologies, it is possible to see that both the international and the EU legislation were exercising an advisory rather than a binding or coercive role. That is why we see global convergence on standards for peaceful protest rights emerging through a *harmonization* mechanism rather than an *imposition* mechanism. The process is summarized in Figure 1.

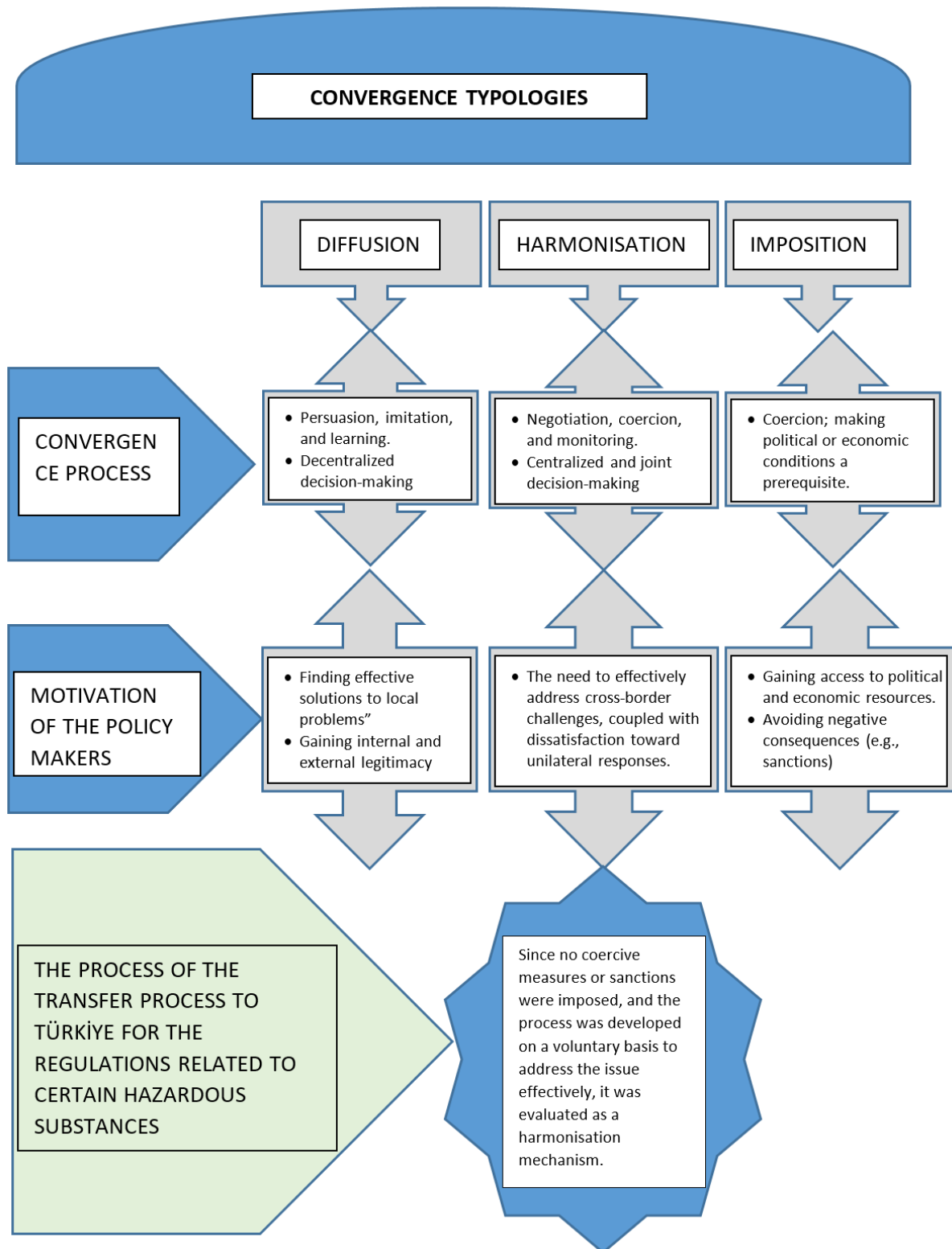


Figure 1. *The Typologies of the International Convergence Mechanisms and The Transfer Process of Certain Hazardous Substances including OC to Türkiye*

Source: The figure was developed by the authors by inspiring from the Table for the Convergence Typologies of Busch and Jörgens (2005: 8).

As could be seen in Figure 1, the regulations in Türkiye were developed neither under a coercive international imposition nor any sanction threat. The main motivation was to adapt to the international consensus on a voluntary basis to receive an effective result from the designed policies. That's why the convergence process for the ratification of the regulations related to "Certain Hazardous Substances including OC" to Türkiye was evaluated as a harmonisation mechanism.

Finally, it is found that the policy transfer process on OC in Türkiye has emerged in a *path-dependent* way. In other words, *the national background of the domain and the impact of cultural characteristics and ethical codes have sometimes played an accelerating role* for some rights, which have already taken place in the national documents, or an inhibiting role related to the rights that were not involved in the previous national documents or which were in conflict with the national cultural codes. Especially the regulations related to penalties for the crimes related to subject matter can be evaluated within this frame. E.g. while any person who uses chemical weapons shall be sentenced to imprisonment for a term of ten to fifteen years in Türkiye, similar to previous legal regulations, it is "imprisonment for up to five years" in Germany, and "up to 30 years' imprisonment" in France. Furthermore, the assignment of the responsible authorities and ministries for the inspection and enforcement the issue can also be evaluated within this frame. While Türkiye is assigning the task under the responsibility of the Industry and Trade, France has given the responsibility to the Ministry of Ecological Transition (Ecology) for implementation, and to the Ministry of Labour, and Ministry of Health for risk management, and worker/public safety. On the other hand, it is understood that Germany has approached the matter in a more environmental perspective and assigned the responsibility to the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV). Thus, it can be said that the administrative traditions are also effective in the related policy design for the legislation of the subject matter and even the Federative (Germany), and unitary (Türkiye and France) structures of the countries provide a path dependent process.

CONCLUSION

The primary purpose of law enforcement in OC exposure is to support the force continuum levels' effectiveness within the human rights understanding, to stop the assailants' actions, and to decrease the risk of getting injured both by the police and riots. Pepper gas is not a substitute for weapons at the force continuum levels, but it is a supporting means of force implementation during riots.

The chemicals known as riot control agents are effectively used to incapacitate the assailants, disperse the riots, divert attention, and put psychological pressure on crowds (Weaver & Jett, 1989). Oleoresin capsicum (OC) attracted global law enforcement attention and became widespread. OC became an ad-hoc alternative in force continuum levels for law enforcement rather than firearms and baton use. Oleoresin capsicum can be an effective tool within the force continuum, helping law enforcement address disproportionate force claims (Onnen, 1993). This is the main aim of police forces in riot control operations. Many law enforcement agencies worldwide accept the use of OC at an ad hoc level in the force continuum (Hunter, 1994).

Because the damage both to law enforcement agencies and the public after exposure to OC is vitally important, scientific and technological studies on the subject are ongoing (Edwards et al., 1997). The oleoresin capsicum usage in the riots, including the control of crowds, is in the middle of the discussion, for both the level of force continuum and side effects on health. Law enforcement did not create alternative mid-levels in the force continuum other than physical force and firearm use. *Oleoresin capsicum can be considered an agent that underscores the need for mid-levels in the force continuum during riot control.*

The techniques used by law enforcement in riot control are often criticized both by the public and the mass media. Organic oleoresin capsicum can be an alternative at levels of force along the continuum, effectively reducing the risk of disproportionate force. The force continuum levels

organize the police force based on the situation encountered. OC is commonly used after the verbal warning of the crowd to stop the action (Onnen, 1993). *Many factors related to pepper gas use will be brought to the agenda, such as the level at which it was used and the reliability of the OC content, because some companies produce OC with varying alcohol content, which can harm humans in many ways. That is why it is important to use accredited pepper gas for its toxicological properties. It is recommended that isopropyl alcohol is the safest one in terms of pepper gas content.* Law enforcement agencies must also be aware of the side effects of pepper gas. They also must know first-aid procedures (Morgan, 1999).

One of the messages in the preamble of the Universal Declaration of Human Rights, which was adopted 65 years ago, is still relevant today as it was in 1948: the state must make sure that national laws about the rights to peaceful assembly and freedom of opinion, expression, and association are under international human rights law and standards. An assembly's dispersion is not justified solely because it is illegal. If a peaceful assembly needs to be dispersed, it should be done so peacefully. Nonviolent protesters should not be subjected to force.

To reduce the use of force, law enforcement officials should be equipped with appropriate protective gear. States should create explicit guidelines and directives and reach consensus on procedures for the use of less-lethal weapons, especially tear gas (pepper spray), in accordance with their duties under human rights law and Human Rights Council Resolution 22/10 (2013) (Human Rights Council Twenty-second session). Tear gas should not be used in places where people are confined or where it could provoke panic. Never aim tear gas cartridges directly at a human. The purpose of law enforcement in using pepper spray is to support the use of force within the scope of proportional force, in an attitude that respects human rights and universal values. It is to end resistance that may occur during police intervention, reduce the risk of injury to both law enforcement and the attacker, and eliminate aggressive behaviour. Pepper spray should not be a substitute for the weapons within law enforcement's force levels. However, it should be a supportive element that facilitates the implementation of these levels and ensures the proportional use of force. For this reason, it is necessary to determine the level of force required for pepper gas to be used before, after, or during the interventions.

The use of force techniques has been developed to match the level of power used by people resisting law enforcement officers during social events, and the level of force law enforcement will use. Although the use of force by law enforcement was born of the idea of preventing the suspect from harming himself or others, this situation is closely related to the reliability of the law enforcement agency. That is why, in such situations, the law enforcement goal in suppressing the riot is to use the lowest level of force or an equivalent force technique (proportionality) suitable to the current situation. (Hunter, 1994).

In general, law enforcement's force is organized into a five-step configuration. These are a show of strength, verbal warning, physical contact, intervention with batons and similar tools, and firearms.

The above-mentioned levels of use of force are traditional and have survived to this day. However, considering the changing conditions and techniques of the day, it is necessary to revise this order. In other words, the application of pepper spray at the level after a verbal warning should be added to the levels of use of force. If the attack continues, it may be necessary to use pepper gas before the baton intervention (Hunter, 1994). With the two added levels, flexibility will be provided to law enforcement in suppressing the riot and controlling the aggressor suspect (Figure 2). The discussions about the use of disproportionate force will decrease, thus enabling the use of pepper spray on a legal basis.

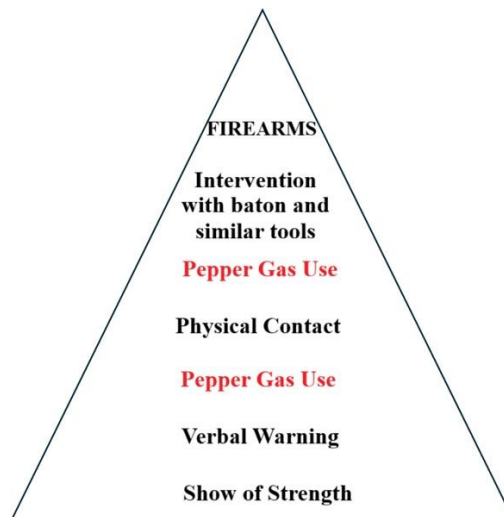


Figure 2. The Proposed Continuum Levels with Pepper Gas Use

It has been accepted as a step within the force levels used by many law enforcement agencies worldwide. This organic irritant agent, derived from cayenne pepper, is said to be safe to use even at short distances (Hunter, 1994; Ravindra et al., 2018).

From the perspective of law enforcement and legislators, the damage caused to officers and suspects exposed to this agent is significant. For this reason, technological and scientific studies on the subject are ongoing in many parts of the world. Due to its effects on law enforcement personnel and other individuals exposed to it, the use of oleoresin capsicum is likely to become the focus of debate and research. To date, law enforcement has not established intermediate levels of force as alternatives to physical and armed intervention. However, oleoresin capsicum underscores the need to establish these intermediate levels and suppress social unrest (Haar et al., 2017; Junior et al., 2019).

The use of force by the OC is generally considered to be the stage following a verbal warning. However, this is not reflected in the levels of force permitted under the laws of many countries. This issue has not yet been thoroughly examined and concluded by legal experts and academics (Coe, 1994).

Chemical agents have become widely used by law enforcement agencies for the arrest of aggressors and the suppression of disorder (Smith & Alpert, 2000). While performing this duty, law enforcement agencies are observed by the public and the media. This situation requires law enforcement officers to carefully select and apply the techniques they use to arrest suspects and suppress disorder (Alpert & MacDonald, 2001; Bertilsson et al., 2017).

Following sensational events, law enforcement agencies may come under pressure from society and the media. In particular, the techniques used by law enforcement agencies during the suppression of unrest are criticized, with reports emerging that disproportionate force is being used. The use of oleoresin capsicum in suppressing unrest reduces the risk of injury, death, or harm to both law enforcement and other individuals (Kearney et al., 2014). In its applications around the world, the use of oleoresin capsicum has led to a decrease in reports of excessive or disproportionate force and a decline in the number of lawsuits filed against law enforcement (Norwicky, 2001).

To sum up, in Turkish law, there are many regulations regarding the use of force by law enforcement. A legal arrangement that clearly defines the powers and limits of all law enforcement officers, especially regarding the use of tear gas in the use of force, will provide practical, effective results to a large extent.

So, pepper gas is not a substitute level in the force continuum. Pepper gas ought to be a tool that enables law enforcement to use proportional force. The main principle of the force continuum is the assessment of safety and the protection of fundamental rights and freedoms. Accordingly, achieving the desired results for the ultimate force continuum goal requires using the lowest level possible. The force continuum needs to be revised to require the use of pepper spray after a verbal warning and before baton use (Hunter, 1994). This will lead the pepper gas used by law enforcement to sit on a more legal platform, minimizing the arguments of disproportionality claims. A new code composed of the basic principles stated in the European Court of Human Rights' decisions regarding excessive police use of force will elucidate the principles governing the use of pepper gas on both national and international legal grounds.

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