

# Misuse of the Dexamethasone- Cyproheptadine HCl Combination as a Weight-Gain Product and Law Enforcement Efforts

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| ARTICLE<br>INFO                                                                                                                                                                                                                                        | ABSTRACT / ABSTRAK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| <p><b>Article history</b></p> <p>Received:<br/>July 15 2025</p> <p>Revised:<br/>May 08, 2026</p> <p>Accepted:<br/>May 09, 2026</p> <p>DOI:<br/><a href="https://doi.org/10.54384/eruditio.v5i2.239">https://doi.org/10.54384/eruditio.v5i2.239</a></p> | <p>The misuse of the dexamethasone-cyproheptadine HCl combination as an illegal weight-gain product constitutes a serious public health concern in Indonesia and has resulted in victims. Both drugs can increase appetite and promote fat accumulation, but their use outside approved medical indications may increase the risks of obesity, metabolic disorders and psychological complications. This study aimed to describe the profile of illegal products in circulation, analyze distribution trends and the areas in which the products were distributed, identify the modus operandi and evaluate the law enforcement efforts undertaken by the Indonesian Food and Drug Authority (BPOM). This study employed a mixed-methods design integrating quantitative and qualitative approaches. The quantitative approach involved an analysis of the Indonesian FDA's cyber patrol data from 2023 to 2024, whereas the qualitative approach involved a case study of case number 28/Pid.Sus/2025/PN Btl, which was investigated by Civil Servant Investigators at the Indonesian FDA Regional Office in Yogyakarta. The findings showed that 2,641 online storefronts selling this illegal product were identified in 2024, representing a sharp increase compared with 2023. The products were generally packaged in white bottles with labels that did not comply with regulatory requirements. Their distribution was concentrated in Java, particularly in DKI Jakarta, West Java and East Java. The principal modus operandi involved the diversion of prescription-only medicines from legitimate distribution channels, followed by repackaging and marketing through online sales platforms. Law enforcement measures have been implemented pursuant to Law Number 17 of 2023 on Health. However, their effectiveness remains constrained by relatively lenient sentences and difficulties in identifying the primary sources of diversion. This study recommends strengthening distribution oversight and implementing a product traceability system to prevent diversion from the outset.</p> <p><i>Penyalahgunaan kombinasi deksametason-siproheptadin HCl sebagai produk ilegal peningkat berat badan merupakan masalah kesehatan masyarakat serius di Indonesia dan telah menimbulkan korban. Kedua obat ini dapat meningkatkan nafsu makan dan akumulasi lemak tetapi penggunaannya di luar indikasi medis dapat menimbulkan risiko obesitas, gangguan metabolik serta komplikasi psikologis. Penelitian ini bertujuan menjelaskan profil produk ilegal yang beredar, tren peredaran dan sebaran wilayahnya, mengidentifikasi modus operandi, serta mengevaluasi upaya penegakan hukum yang dilakukan oleh Badan Pengawas Obat dan Makanan (BPOM). Penelitian ini menggunakan metode campuran dengan pendekatan kuantitatif dan kualitatif. Pendekatan kuantitatif dilakukan terhadap data patroli siber BPOM tahun 2023–2024, sedangkan pendekatan kualitatif dilakukan melalui studi kasus perkara Nomor 28/Pid.Sus/2025/PN Btl yang ditangani oleh Penyidik Pegawai Negeri Sipil Balai Besar POM di Yogyakarta. Hasil penelitian menunjukkan bahwa pada tahun 2024 teridentifikasi 2.641 etalase yang menjual produk ilegal ini, meningkat tajam dibanding 2023. Produk ilegal umumnya dikemas dalam botol putih dengan label yang tidak memenuhi ketentuan, dan persebarannya terkonsentrasi di Pulau Jawa, terutama DKI Jakarta, Jawa Barat dan Jawa Timur. Modus operandi dilakukan melalui kebocoran obat keras dari jalur distribusi resmi, pengemasan ulang dan pemasaran melalui kanal penjualan daring. Penegakan hukum telah dilakukan menggunakan Undang-Undang Nomor 17 Tahun 2023 tentang Kesehatan, tetapi efektivitasnya masih menghadapi kendala berupa vonis yang relatif ringan dan kesulitan dalam pengungkapan sumber utama kebocoran. Penelitian ini merekomendasikan penguatan pengawasan distribusi dan penerapan sistem keterlacakan produk untuk mencegah terjadinya diversi sejak awal.</i></p> |
| <p><b>Kata Kunci:</b> Penyalahgunaan, Deksametason, Siproheptadin HCl, Produk peningkat berat badan<br/><b>Keywords:</b> Misuse, Dexamethasone, Cyproheptadine HCl, a Weight-gain product</p>                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## 1. Introduction

Cyproheptadine HCl is a first-generation antihistamine known to help increase body weight in various groups of patients with underweight conditions (Harrison et al., 2019). Dexamethasone, on the other hand, is a glucocorticoid clinically used to suppress allergic reactions and modulate immune response (Rhen & Cidlowski, 2005). A study of children receiving high-dose dexamethasone therapy for 5 days reported a significant increase in appetite scores and fat mass, accompanied by changes in leptin levels, a hormone that plays a key role in regulating appetite and fat metabolism (van Hulst et al., 2024). These pharmacological properties may contribute to the misuse of the dexamethasone–cyproheptadine HCl combination as a weight-gain product.

The misuse of this drug combination has been widely reported, particularly among young women, with studies indicating a relatively high prevalence in this population and a potential increased risk of obesity (Lulebo et al., 2016). This practice is generally driven by the desire to improve physical appearance through rapid weight gain. However, it may lead to metabolic disorders and psychological complications (Karia et al., 2013). Therefore, the misuse of this drug combination warrants serious attention due to the risk of health problems and dependence (Mukherjee et al., 2024).

In Indonesia, dexamethasone and cyproheptadine HCl are classified as prescription-only medicines that can only be dispensed with a prescription. Both active ingredients are available on the market as single-ingredient formulations. Cyproheptadine HCl in tablet form and dexamethasone in tablet and injection dosage forms. The Indonesian Food and Drug Authority has not approved the use of this drug combination as a weight-gain product. Nevertheless, off-label use is becoming increasingly common without supervision of authorized medical professionals.

From a clinical perspective, the misuse of dexamethasone is known to carry the risk of causing hyperglycemia and diabetes, particularly when used in high doses without medical supervision (Alessi et al., 2020). Furthermore, the use of cyproheptadine HCl without a doctor's supervision has the potential to cause adverse health effects. Chu (2011) provided empirical evidence that the misuse of cyproheptadine HCl results in serious anticholinergic effects that increase with dose and are often associated with mental health issues such as suicide attempts. These risks may be further increased when the two drugs are used in combination outside approved indications and without monitoring by authorized healthcare professionals (Karia et al., 2013).

The risk of these health effects is even more concerning when they occur in vulnerable groups such as children. One such case was reported in Surabaya in mid-2024, when a caregiver identified by the initial “N”, who administered a combination of dexamethasone and cyproheptadine HCl to a child for approximately one year. The child's body weight increased to 19.5 kg, exceeding the normal growth range and the child exhibited side effects, including hormonal disturbances. According to the findings of an investigation by the East Java Regional Police (POLDA JAWA TIMUR), these medications were obtained through online purchases without a prescription (ANTARA, 2024). This case indicates that the misuse of this drug combination is not limited to adults and may also pose serious health risks to vulnerable populations, particularly children.

Based on the foregoing, the misuse of the dexamethasone–cyproheptadine HCl combination as a weight-gain product is not only an individual problem but also a serious public health issue that requires systematic and sustained response. In this study, misuse

refers to the use of the prescription-only combination of dexamethasone and cyproheptadine HCl for weight gain outside the medical indications approved by the Indonesian FDA.

There are currently no studies in Indonesia have systematically integrated monitoring data from online marketplaces with case-study analysis to examine law enforcement efforts against the misuse of these two drugs in combination. Existing studies in Indonesia remain limited to two main areas of focus. First, studies on the behavior of self-medication practices involving weight-gain products at the community level, such as Lenggu's (2017) research on pharmacy customers in Kupang City, which showed that the use of weight-gain drugs for self-medication is already occurring at the community level and that one of the drugs used is dexamethasone. Second, laboratory studies focused on identifying dexamethasone as an undeclared pharmaceutical ingredient in herbal medicines or weight-gain products, such as Ningsih et al. (2021) on weight-gain herbal medicines sold on the Shopee e-commerce platform and Maulida (2022) on weight-gain herbal remedies widely available on the market.

Thus, existing studies in Indonesia have primarily focused on patterns of use and the detection of pharmaceutical ingredients in herbal medicines. However, they have not comprehensively examined trends in the distribution of dexamethasone–cyproheptadine HCl combinations as weight-gain products, the areas in which these products are distributed, the *modus operandi* employed, or the related law enforcement response. Therefore, this study aims to describe the profile of illegal products in circulation, analyze distribution trends and the areas in which the products are distributed, identify the *modus operandi* and evaluate the law enforcement efforts undertaken by the Indonesian FDA.

## 2. Methodology

This study employed a mixed-methods design because the misuse of the dexamethasone–cyproheptadine HCl combination as an illegal weight-gain product could not be adequately examined using a single methodological approach. The quantitative approach was used to describe the profile of illegal products in circulation, distribution trends and the areas in which the products were distributed. The qualitative approach was used to explain the *modus operandi*, the context of the violations and their legal implications. A mixed-methods approach is well-suited to examining complex research problems and integrates quantitative and qualitative data to yield a more comprehensive understanding (Östlund et al., 2011).

The quantitative approach used cyber patrol data collected by the Indonesian FDA's Directorate of Cyber of Food and Drug (Direktorat Siber Obat dan Makanan) through the Online Monitoring System for the Circulation of Pharmaceutical Preparations and Processed Foods for the 2023–2024 period. A total of 657,302 cyber patrol data were analyzed, comprising 347,941 records from 2023 and 309,361 from 2024 (Directorate of Cyber of Food and Drug, 2025). In this study, cyber patrol data refer to data obtained by monitoring e-commerce platforms and social media to identify suspected distribution activities that violations legal regulations. The variables used include product name, product profile, number of storefronts, potential economic value, therapeutic class, type of violation and seller location.

A quantitative approach was adopted to describe product profiles, circulation trends and sales distribution areas. In this study, circulation trends were analyzed in terms of product sales. The analysis of circulation trends was based on the number of listings for illegal products and the area of seller accounts targeted by the Indonesian FDA's cyber patrols. The platforms monitored included licensed e-commerce platforms, namely Tokopedia, Shopee, Lazada and Blibli, as well as social media platforms such as Facebook, Instagram, and TikTok.

Furthermore, the qualitative approach employs a case study design to provide a detailed, contextual overview of the *modus operandi* and legal implications of the misuse of illegal weight-gain products. The case study was based on data from a single case number 28/Pid.Sus/2025/PN Btl. The data analyzed consisted of case files and court decisions that had acquired final and binding legal force (*inkracht*). In this study, a final and binding decision (*inkracht*) is defined as a decision against which no further ordinary legal remedies can be pursued. The case data is public information available on the Case Tracking Information System (SIPP) at <https://sipp.pn-bantul.go.id/>. This study used secondary data from reports and did not directly involve perpetrators, victims, or other human participants. Therefore, ethical approval was not required.

### **3. Results and Discussion**

#### **3.1. Online Distribution of Illegal Products Combining Dexamethasone and Cyproheptadine HCl**

The results of the Indonesian FDA's cyber patrols conducted during 2023-2024 indicated an increase in the online trade of illegal weight-gain products through e-commerce and social media platforms. This finding suggests that e-commerce platforms and social media serve not only as promotional tools but also as distribution channels, enabling illegal products to reach consumers more widely and quickly. These findings are consistent with those of Zhao et al. (2020), who demonstrated that the online circulation of illegal drugs may be amplified by website traffic and referrals from social media, thereby making online marketplaces a critical channel in the distribution of illegal pharmaceutical products.

The online distribution of illegal weight-gain products in Indonesia must be understood within a regulatory framework that recognizes e-commerce platforms and social media as integral parts of the drug distribution chain, which remain subject to legal, safety and oversight requirements. The Indonesian FDA, through Regulation No. 14 of 2024 on the Supervision of Drugs and Food Distributed Online, stipulates that every business operators engaged in the online distribution of drugs and food is required to provide, manage, and/or operate an electronic system with a license as a Pharmaceutical Electronic System Operator (PSEF) registered with the Ministry of Health of the Republic of Indonesia. Furthermore, Article 11, Paragraph (1) of The Indonesian FDA Regulation No. 14 of 2024 stipulates that prescription-only medicines distributed online may be dispensed only on the basis of a prescription and in accordance with applicable laws and regulations.

##### **3.1.1. Packaging Profile of Illegal Products Combining Dexamethasone and Cyproheptadine HCl**

Based on data from the Indonesian FDA's cyber patrols conducted in 2023 and 2024, illegal weight-gain products combining dexamethasone and cyproheptadine HCl were generally packaged in white plastic bottles. The labels commonly contained phrases such as "Pharmaceutical Compound" and "Doctor's Prescription Product" as well as dosage instructions and other information that could create a misleading impression of legality and safety among consumers. This finding is consistent with Dégardin et al. (2018), who reported that illegal or counterfeit pharmaceutical products are often packaged to imitate authorized prescription medicines. Such practices may include copying holograms, security stickers and labeling elements to make the products appear legitimate to consumers.



Figure 1. Packaging Profile of Illegal Weight-Gain Products Containing Dexamethasone and Cyproheptadine HCl: Findings from the Indonesian FDA Cyber Patrol, 2023–2024  
(Source: Directorate of Cyber of Food and Drug, 2025)

None of the illegal weight-gain products combining dexamethasone and cyproheptadine HCl displayed a batch number, manufacturing date, expiration date, or manufacturer identification on their labels. The absence of this information indicates that the products did not comply with the labeling requirements applicable to authorized medicines. According to the Indonesian FDA Regulation No. 23 of 2025 on the Criteria and Procedures for Drug Registration, the minimum information required on a medicine label includes the product name, dosage form, package size, name and strength of each active ingredient, name and address of the registrant or manufacturer, directions for use, marketing authorization number, batch number, manufacturing date, and expiration date. For prescription-only medicines, the label must also display a specific warning stating that the medicine may be dispensed only with a physician's prescription, along with the applicable prescription-only medicine symbol. Therefore, the absence of these elements indicates that the products not only failed to comply with legal requirements but could also mislead consumers regarding their identity, origin, safety and authorization status.

### 3.1.2. Trends in the Circulation of Illegal Products Combining Dexamethasone and Cyproheptadine HCl

Table 1. Results of Cyber Patrols for Illegal Weight-Gain Products

| Product Name                                                    | Number of Online Storefronts Selling Illegal Products |                   |
|-----------------------------------------------------------------|-------------------------------------------------------|-------------------|
|                                                                 | 2023                                                  | 2024              |
| Illegal Products Combining Dexamethasone and Cyproheptadine HCl | 99                                                    | 2,641             |
| Sam Yun Wan                                                     | 130                                                   | 122               |
| Kianpi Pil                                                      | 12                                                    | 171               |
| Other Illegal Weight-Gain Product Brands                        | 34                                                    | 296               |
| Total Number of Storefronts                                     | 275                                                   | 3,230             |
| Estimated Sales Value                                           | Rp 8,596,661,687                                      | Rp 40,117,355,373 |

(Source: Directorate of Cyber of Food and Drug, 2025)

Based on the results of the Indonesian FDA's cyber patrols of online marketplaces during the 2023–2024 period, a significant increase was observed in the sale of illegal products in Indonesia that claim to promote weight gain. In 2023, a total of 275 listings for illegal

products were identified, with an estimated economic value of Rp 8,596,661,687. In 2024, that number increased to 3,230 listings with an estimated economic value of Rp 40,117,355,373. In this study, the term “number of illegal product listings” refers to each instance in which a product was displayed on an e-commerce or social media platform by a seller or account owner for promotional or sales purposes. The estimated economic value was calculated by multiplying the number of product units offered for sale by the listed unit price. These findings indicate that the online distribution of illegal weight-gain products through e-commerce and social media platforms increased sharply in terms of both the number of listings and the estimated economic value.

Based on the categorization of illegal products claiming to promote weight gain in Indonesia, products combining dexamethasone and cyproheptadine HCl were the most prevalent. In 2023, this product category accounted for 99 listings, representing 34.8% of all findings. Its dominance increased substantially in 2024, reaching 2,641 listings or 81.7% of the total findings. This increase in proportion indicates that products combining dexamethasone and cyproheptadine HCl became the most widely offered type of illegal weight-gain product online compared with other products in the same category.

### 3.1.3. Distribution of Illegal Products Combining Dexamethasone and Cyproheptadine HCl

The results of grouping the 2023–2024 cyber patrol data by province showed that the distribution of illegal products containing a combination of dexamethasone and cyproheptadine HCl was concentrated in Java, particularly in DKI Jakarta, West Java and East Java. These three provinces ranked highest in terms of the number of identified listings for illegal products. The ten provinces included in this analysis were those with the highest numbers of findings, selected from the Indonesian FDA’s cyber patrol data covering all 38 provinces in Indonesia. In addition to the three leading provinces, these products were also identified in Banten, South Sulawesi, Central Java, Southeast Sulawesi, the Special Region of Yogyakarta, South Kalimantan and East Nusa Tenggara.

Table 2. Provinces with the Highest Numbers of Listings for Products Combining Dexamethasone and Cyproheptadine HCl

| Provinces                    | Number of Illegal Product Displays |
|------------------------------|------------------------------------|
| Jakarta                      | 1,482                              |
| West Java                    | 581                                |
| East Java                    | 333                                |
| Banten                       | 161                                |
| South Sulawesi               | 148                                |
| Central Java                 | 109                                |
| Southeast Sulawesi           | 92                                 |
| Special Region of Yogyakarta | 74                                 |
| South Kalimantan             | 53                                 |
| East Nusa Tenggara           | 52                                 |

(Source: Directorate of Cyber of Food and Drug, 2025)

The concentration of findings in Java indicates that the online distribution of illegal products tends to be associated with areas characterized by high population density,

substantial economic activity and well-developed logistics infrastructure. Study by Pratikto et al. (2022) reported that approximately 60% of Indonesia’s population resides in Java, which may partly be associated with better road infrastructure than that available in eastern Indonesia. Furthermore, a study by Syaban et al. (2023) indicated that multimodal transportation systems in Java may improve the efficiency of cargo distribution. The patterns of illegal product distribution identified in this study align with the findings of Bosona (2020) and Matthews et al. (2023), who reported that major cities with efficient distribution networks tend to have faster delivery services and wider distribution coverage.

In contrast, the identification of these products in several provinces outside Java indicates that the online distribution of the dexamethasone-cyproheptadine HCl combination as an illegal weight-gain product is not limited to metropolitan areas but has extended to a wider range of regions. This finding suggests that e-commerce and social media platforms play an important role in expanding product distribution and reducing the constraints imposed by physical distance under conventional trade patterns. By using these digital platforms, sellers can more easily reach consumers across regions, including those located far from major distribution hubs.. This finding is consistent with Mackey & Liang (2013), who demonstrated that social media may be exploited to promote and sell illegal medicines online, thereby expanding their distribution reach and complicating regulatory oversight. Haupt et al. (2022) also indicate that digital marketing strategies may accelerate the expansion of illegal pharmaceutical product distribution. In the context of this study, these findings support the interpretation that the distribution of the dexamethasone-cyproheptadine HCl combination as an illegal weight-gain product in Indonesia is influenced by the interaction between logistics efficiency and the expansion of digital marketing.

3.2.Case Study of Law Enforcement Against Illegal Products

This study examined case number 28/Pid.Sus/2025/PN Btl. The case was selected because of its relevance to the research objectives, particularly its involvement in the distribution of an illegal weight-gain product containing dexamethasone and cyproheptadine HCl, both of which are prescription-only medicines. The investigation was conducted by Civil Servant Investigators (PPNS) from the Yogyakarta Regional Office of the Indonesian Food and Drug Authority (BBPOM di Yogyakarta). The applicable legal provisions in this case were Articles 435 and 436 of the Law of the Republic of Indonesia Number 17 of 2023 on Health (The Indonesian FDA Regional Office in Yogyakarta, 2024).

Table 3. Summary of the Court Decision in Case Number 28/*Pid.Sus/2025/PN Btl*

| Place of Offense                                | Date of Judgment       | Judgment                                       |
|-------------------------------------------------|------------------------|------------------------------------------------|
| Bantul Regency,<br>Special Region of Yogyakarta | Monday, April 14, 2025 | Fixed-Term Imprisonment<br>(2 Years, 4 Months) |

(Source: Bantul District Court, 2025)

3.2.1. Results of the Identification and Laboratory Testing of Seized Evidence

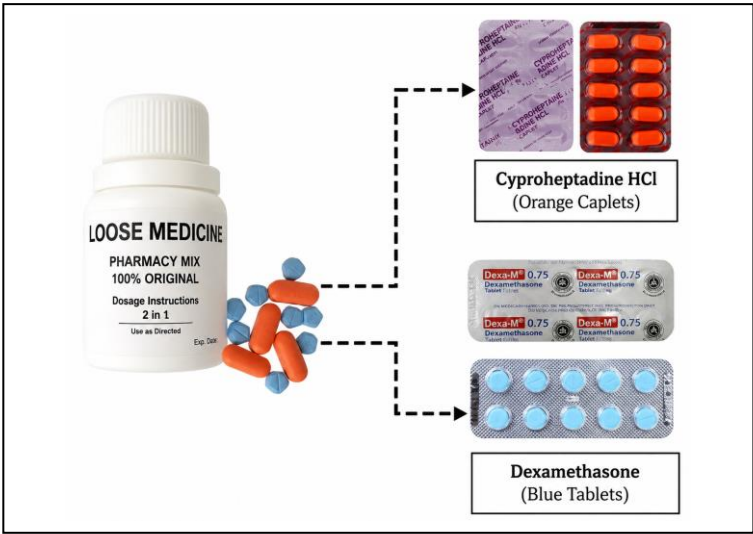


Figure 2 Visual Profile of the Seized Evidence in Case Number 28/Pid.Sus/2025/PN Btl  
(Source: The Indonesian FDA Regional Office in Yogyakarta, 2024)

Figure 2 shows the seized evidence presented in case number 28/Pid.Sus/2025/PN Btl. The evidence comprised blue “Baltic Sea” tablets (Pantone 14-4320 TPG) and vermilion-orange caplets (Pantone 16-1362 TPG), which were marketed as illegal weight-gain products. This visual documentation provided an initial basis for identifying the evidence as repackaged forms of two products officially registered with the Indonesian Food and Drug Authority, namely DEXA-M 0.75 mg and PRONICY 4 mg. These findings indicate that the illegal products in circulation were not newly formulated products but were produced by combining and repackaging legally marketed prescription-only medicines before being resold as illegal weight-gain products.

Table 4. Laboratory Test Results for Seized Illegal Product

| Tests Conducted                     | Description     |             |                                                                                                            |
|-------------------------------------|-----------------|-------------|------------------------------------------------------------------------------------------------------------|
|                                     | Results         | Test Method | References                                                                                                 |
| <b>Identification</b>               |                 |             |                                                                                                            |
| Cyproheptadine HCl (Orange Caplet)  | Positive        | TLC/HPLC    | Indonesian FDA Analytical Methods No. 01 and No. 07/OT/12; <i>Indonesian Pharmacopeia</i> (6th ed., 2020). |
| Dexamethasone (Blue Tablet)         | Positive        | TLC/HPLC    | Indonesian FDA Analytical Methods No. 01 and No. 07/OT/12; <i>Indonesian Pharmacopeia</i> (6th ed., 2020). |
| <b>Assay</b>                        |                 |             |                                                                                                            |
| Cyproheptadine HCl (Orange Caplets) | 4,201 mg/caplet | HPLC        | <i>Indonesian Pharmacopeia</i> (6th ed., 2020).                                                            |
| Dexamethasone (Blue Tablets)        | 0,735 mg/tablet | HPLC        | <i>Indonesian Pharmacopeia</i> (6th ed., 2020).                                                            |

(Source: The Indonesian FDA Regional Office in Yogyakarta, 2024)

Table 3 presents the results of qualitative and quantitative testing of the seized evidence samples conducted by the Testing Laboratory of The Indonesian FDA Regional Office in Yogyakarta. The samples were analyzed using TLC-HPLC and HPLC methods in accordance with Indonesian FDA Analytical Methods Number 01 and 07/OT/12 and the Indonesian Pharmacopoeia, Sixth Edition (2020). The identification results showed that the vermilion-orange caplets contained cyproheptadine HCl, whereas the Baltic Sea blue tablets contained dexamethasone. Quantitative testing showed that the cyproheptadine HCl content was 4.201 mg per caplet and the dexamethasone content was 0.735 mg per tablet. These results confirmed that the seized evidence contained the two active ingredients examined in the investigation.

The measured concentrations of dexamethasone and cyproheptadine HCl were close to the labeled strengths of the officially registered products DEXA-M 0.75 mg and PRONICY 4 mg. These findings suggest that the illegal products may have been produced primarily through the combination and repackaging of the registered medicines, without substantial modification of their active-ingredient content. Therefore, the principal legal concern in this case appears to arise not from the falsification of the active-ingredient composition but from the diversion of legally marketed prescription-only medicines from legitimate distribution channels, followed by their repackaging and marketing as illegal weight-gain products..

### 3.2.2. Modus Operandi Used in the Offense

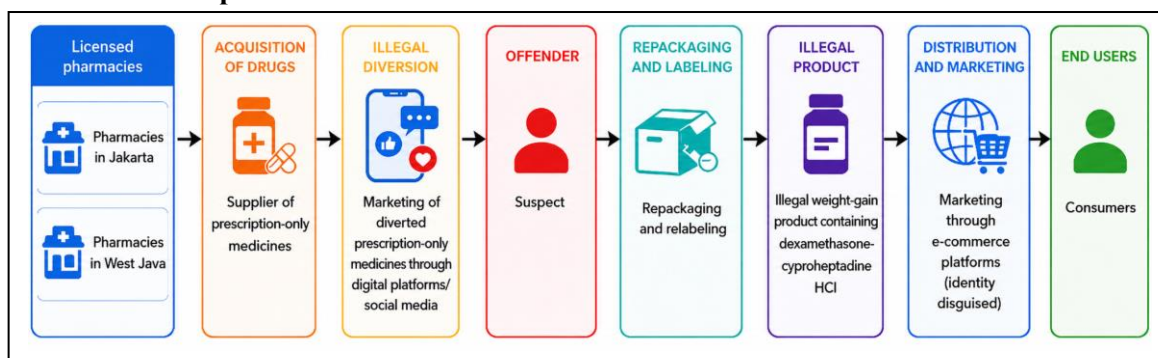


Figure 3. Reconstructed Modus Operandi Based on the Case Study

Figure 3 presents a reconstructed estimate of the modus operandi in case number 28/Pid.Sus/2025/PN Btl. The diagram was developed based on the suspect's statements and the physical evidence identified in the case, and it illustrates the alleged distribution pattern relevant to the offense. Therefore, it should not be interpreted as a comprehensive representation of the entire, fully verified distribution network, but rather as an analytical illustration of the main stages in the distribution of the illegal products involved in the case. This reconstruction is important because it shows that the distribution of the products did not occur spontaneously, but instead took place through a series of interconnected stages, beginning with the acquisition of prescription-only medicines through diversion in the supply chain, followed by repackaging and relabeling, and ending with the marketing of the products to consumers through online platforms.

Based on the findings of the investigation, the modus operandi in this case is believed to have involved several stages. First, the perpetrator obtained prescription-only medicines from suppliers associated with licensed entities such as pharmacies. The supplier was found to have used social media to offer diverted prescription-only medicines to the perpetrator. This finding is consistent with Katsuki et al. (2015), who demonstrated that social media can

serve as a conduit between the diversion of medicines from legitimate sources and their illegal distribution. Second, the medicines were repackaged and relabeled. Third, the resulting products were marketed through online channels, including e-commerce and social media platforms, using disguised seller identities that made the sellers more difficult to trace. operandi is consistent with the findings of Li et al. (2019), who reported that e-commerce and social media platforms may be used to market illegal pharmaceutical products through concealed distribution practices

### 3.2.3. Law Enforcement Efforts Under Law No. 17 of 2023

Law enforcement efforts against the distribution of the dexamethasone-cyproheptadine HCl combination as an illegal weight-gain product are based on the regulatory framework governing product legality, the dispensing of prescription-only medicines, and criminal penalties related to the unlawful production and distribution of pharmaceutical preparations. In the context of online distribution, Indonesian Food and Drug Authority Regulation Number 14 of 2024 stipulates that prescription-only medicines distributed online may be dispensed only on the basis of a prescription and in accordance with applicable laws and regulations. This provision is reinforced by the Law of the Republic of Indonesia Number 17 of 2023 on Health. Article 435 provides for a maximum term of imprisonment of 12 years or a maximum fine of Rp 5,000,000,000.00 for the production or distribution of pharmaceutical preparations that do not meet applicable safety, efficacy or quality standards. Article 436 provides for a maximum term of imprisonment of 5 years or a maximum fine of Rp 500,000,000.00 for conducting pharmaceutical practices without the required expertise and authority. Therefore, the distribution of the dexamethasone-cyproheptadine HCl combination as an illegal weight-gain product may constitute an offense in terms of both product legality and compliance with legally prescribed distribution procedures.

The application of these criminal provisions was examined through case number. 28/Pid.Sus/2025/PN Btl. In this case, the defendant was prosecuted under article 435 of the Law of the Republic of Indonesia Number 17 of 2023 on Health for distributing pharmaceutical preparations that did not meet applicable safety and quality standards. In its judgment dated April 14, 2025, the Bantul District (Pengadilan Negeri Bantul) Court found the defendant legally and convincingly guilty of the offense and sentenced the defendant to 2 years and 4 months of imprisonment. The period of arrest and detention already served was deducted in full from the sentence imposed.

The Bantul District Court's judgment, which imposed a sentence of 2 years and 4 months of imprisonment, demonstrates that the criminal provisions of the Law of the Republic of Indonesia Number 17 of 2023 on Health can be applied to the unlawful distribution of the dexamethasone-cyproheptadine HCl combination as an illegal weight-gain product. However, when compared with the maximum penalty of 12 years' imprisonment prescribed under article 435, the sentence imposed may be regarded as relatively lenient. In this context, punishment may be considered effective when it reduces the likelihood of recidivism and discourages similar conduct. Accordingly, an excessively lenient sentence may have limited deterrent effect on both the offender and other actors involved in the illegal market. This view is consistent with Tonry (2018), who emphasized that sentencing should pursue preventive objectives while remaining within a framework of justice that respects human dignity.

From a retributive perspective, punishment is understood as a proportionate response to wrongdoing. The severity of the sentence should therefore correspond to the degree of the offender's culpability and the extent of the harm caused. Under this perspective, punishment

is assessed not only in terms of its social benefits but also according to whether it reflects the seriousness of the offense and its consequences. In this case, the serious health risks, the potentially substantial economic impact, and the widespread online distribution of illegal products suggest that the sentence imposed may not fully reflect the principle of retributive justice. This is consistent with the findings of Bronsther (2021), who argued that retributive justification still requires careful attention to proportionality and the normative limits of criminal punishment.

In addition to concerns regarding the proportionality of criminal penalties, a major obstacle to effective law enforcement is the difficulty of tracing upstream parties, particularly entities operating within legitimate distribution channels or corporate actors that may serve as sources of prescription-only medicine diversion. As a result, enforcement efforts tend to focus on downstream offenders involved in repackaging and sales, while the underlying problems within legitimate distribution channels remain largely unaddressed. In this context, the theory of corporate liability suggests that law enforcement should target not only individual offenders but also all parties within the distribution network whose actions or omissions enable the offense to occur (Searchinger, 1986). Product traceability and tracking approaches are also relevant because they can be used to trace distribution control failures all the way down to the level of licensed distributors (Smith et al., 2014). Kootstra & Kleinhout-Vliek (2021) noted that product tracing and tracking systems, such as pharmaceutical track-and-trace systems (PTTS), can be used to prevent product diversion. In their most comprehensive form, these systems require scanning at every point in the distribution chain, from initial entry to delivery to the end consumer. Implementing a product traceability and tracking system can strengthen the effectiveness of distribution oversight. However, implementation continues to face several challenges. Parmaksiz et al. (2020), noted that effective product traceability and tracking policies require regulatory support, stronger institutional capacity and aligned incentives among stakeholders.

Based on the foregoing discussion, law enforcement against the distribution of illegal weight-gain products containing a combination of dexamethasone and cyproheptadine HCl has a strong normative basis and may be pursued under the criminal provisions of Law No. 17 of 2023 on Health. However, its effectiveness remains constrained by concerns regarding the proportionality of criminal penalties and difficulties in tracing the sources of diversion within legitimate distribution channels, particularly at the pharmacy level. Therefore, future law enforcement should not rely solely on action against downstream offenders. It should be strengthened through more comprehensive distribution oversight, including the implementation of a product traceability system throughout the distribution chain to detect and prevent diversion from the outset.

#### **4. Conclusion**

The misuse of the dexamethasone-cyproheptadine HCl combination as an illegal weight-gain product in Indonesia is concentrated in major urban areas, particularly DKI Jakarta, West Java and East Java. The primary modus operandi involves the diversion of prescription-only medicines from legitimate distribution channels, followed by repackaging and marketing through online retail platforms. These findings indicate that gaps remain in the oversight of pharmaceutical distribution in Indonesia, which still relies heavily on manual, document-based inspections. From a public health perspective, this situation is concerning because consumers may be exposed to prescription-only medicines without supervision by authorized medical professionals and without adequate product information.

The resulting health risks include obesity, metabolic disorders and hormonal disturbances, and may be particularly serious among vulnerable groups such as children. Law enforcement measures under Law No. 17 of 2023 on Health have been implemented, but their effectiveness should be strengthened through more comprehensive distribution oversight and the implementation of a product traceability system to detect and prevent diversion from the outset.

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