



The Role of Indonesian Food and Drug Authority in Implementation of Online Drug Distribution in Banyumas Regency

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Abstract

Background: Online drug distribution services provide greater benefits for the convenience of broader pharmaceutical services in reaching all levels of society. This convenience not only has a positive impact but also hurts the rampant circulation of illegal drugs. In the evaluation of the cyber operations report from 2021, Banyumas Regency contributed the most online drug distribution in Central Java, with a total of 215 sites. This research intends to examine the role of the Indonesian Food and Drug Authority (FDA) in implementing Indonesian FDA Regulation No. 8 of 2020 as an effort to combat illegal drug distribution online, especially in the Banyumas area.

Methods: This research was conducted using a descriptive analysis method for cases of online drug trafficking violations. Data was collected in May-August 2023 using interviews with Indonesian FDA officers in Banyumas who were directly involved in implementing online drug distribution regulations. The data obtained regarding the role of the Indonesian FDA in implementing its regulations, as well as cases of online illegal drug distribution in Banyumas in 2021-2022, were then analyzed using an empirical juridical approach.

Results: The results of surveillance through cyber operations obtained 317 sites of violation cases of illegal drug distribution, with a total of 16,557 products sold. This result illustrates that the implementation of Indonesian FDA Regulation No. 8 of 2020 by the Indonesian FDA in Banyumas has not been able to tackle violations of online illegal drug distribution.

Conclusion: Implementation of Indonesian FDA Regulation No. 8 of 2020 by FDA Indonesia in Banyumas is carried out with preventive and repressive strategies through monitoring and coaching activities. The results of its implementation have not been able to control online drug trafficking violations, as evidenced by the increase in reports of illegal drug and cosmetic traffic violations in Banyumas. The high number of violations is caused by the relatively rapid growth of accounts compared to supervision and the lack of witnesses for perpetrators of violations who do not provide a deterrent effect. So, it is necessary to increase cross-sector supervision and collaboration as well as coaching activities for business actors and the community to suppress and overcome online drug trafficking violations.

Keywords: *Distribution of Illegal Drugs, Online Drug Distribution, Regulation Implementation, Telepharmacy.*

Introduction

During the COVID-19 pandemic, *Badan Pengawas Obat dan Makanan* (BPOM) Indonesia, or the Indonesian Food and Drug Authority (FDA), discovered that online illegal drug distribution had significantly increased to 100%¹. According to cyber operations data obtained in 2018, the Indonesian FDA was able to identify 24,610 online sites distributing illegal foods and drugs, and 76.4% distributed illegal drug commodities. Then, from January to April 2020, the number of sites selling illegal products increased, with a total of 27,671 online sites, of which 79.2% were selling illegal drugs. By the period 2021, there were 11,282 websites distributing illegal drugs and food². Based on the results of the evaluation of the cyber operations report period in 2021, Banyumas Regency contributed to the list of the most online drug trafficking violation sites in Central Java, totaling 215 online sites.

Circulation of illegal drugs through online channels can also have negative impacts, such as abuse of illegal drugs, distribution of illegal or expired drugs, trade in counterfeit or non-compliant drugs, and trade in illegal drugs without a valid distribution permit³. Even though online drug distribution violations are often found, online drug distribution is one of the developments in communication science and technology that cannot be avoided. The benefits of online drug distribution include offering pharmaceutical services that are easy, efficient, and have a broader reach to the public⁴.

The online distribution of medicines provides many benefits by offering the public a wider range of pharmaceutical services. On the other hand, the distribution of illegal drugs through online channels can have detrimental effects. Illicit drug distribution encompasses drug abuse, corrupt or expired drug circulation, the trafficking of counterfeit or non-

compliant drugs, and the trafficking of drugs without a license for legal distribution⁴.

Many regulations were made to combat cybercrime cases, like the establishment of Act No. 11 of 2008 on Electronic Transactions, the Consumer Protection Act, and Presidential Regulation No. 71 of 2019 on Commerce through Electronic Systems. However, their implementation is far from ideal to protect consumers and fight cybercrime⁵. The Indonesian FDA Chief of Drug Intelligence, Deputy IV Action Body Bandar Lampung, explained that certain dangerous drugs are still circulating freely online and uncontrolled. As a result, the Indonesian FDA issued Regulation No. 8 of 2020 to regulate the surveillance of online drug circulation⁶. Previous research indicates that the absence of legal regulations governing cyber law in Indonesia contributes to the circulation of illegal drugs online. Other elements demonstrate that individuals maintain a passive stance towards their involvement in online drug trafficking, and the absence of authorities and Indonesian FDA officers hinders the monitoring and management of online drug distribution⁷.

Given that the performance of the Indonesian FDA is a contributing factor to the obstruction of e-drug circulation, this study aims to examine the role of the Indonesian FDA in implementing online drug circulation in compliance with Indonesian FDA Regulation No. 8 of 2020. This research is crucial in understanding the role of the Indonesian FDA in enforcing regulations on online drug circulation to combat online drug trafficking. On the other hand, this study wants to know if Indonesian FDA Regulation No. 8 of 2020 has already been effective as a protection and law enforcement measure in the case of illegal drug distribution online⁶.

Methods

This study uses a descriptive-analytical research method, using an empirical jurisprudential approach based on Regulation No. 8 of 2020 of the Food and Drug Authority (FDA) and other related regulations. Data was collected by conducting interviews with officers of the FDA in Banyumas, who are representatives of the Technical Implementation Unit of the FDA in Banyumas. The results obtained are the results of cyber patrols by officers of the FDA from 2021 to 2022. The data is secondary data about the FDA's role in regulating online drug distribution and cases of violations of online drug distribution in the Banyumas Regency. The data was analyzed qualitatively with percentage calculations to obtain

an overview of online drug distribution in Banyumas Regency and the role of the FDA in implementing Indonesian FDA Regulation No. 8 of 2020 as an effort to prevent online drug trafficking. The data is presented in Table 1.

Result

In Banyumas, the Technical Implementation Unit assists in carrying out the duties of *Badan Pengawas Obat dan Makanan* (BPOM) Indonesia or Indonesian FDA. *Loka Pengawas Obat dan Makanan* Banyumas, or Indonesian FDA in Banyumas, has a working area covering the Banyumas, Cilacap, Purbalingga, and Banjarnegara Regency. The results of this study show the FDA's strategy in suppressing violations of online drug distribution through supervision (Cyber Operations) and guidance. The results of the cyber operation report show that online distribution of pharmaceutical, cosmetic, and food commodities is increasing daily. Although the exact data regarding the growth of online drug distribution in Banyumas is still uncertain, the data shows that the number of national health facilities has increased from 29 to 45 in 2020, and this trend is likely to continue as technology continues to develop⁷. Cyber operations in Banyumas during the period 2021–2022 not only increased the number of officially registered health facilities, but also found many sites that distribute drugs and food online illegally, as many as 1701 accounts and sites. Meanwhile, coaching activities are carried out for business actors, communities, and related cross-sector institutions that participate in preventing drug trafficking violations, such as the IdEA Indonesia E-Commerce Association, the police, and the Ministry of Communication and Information Technology.

The Role of the Indonesian FDA in the Implementation of Online Drugs Regulation

The Indonesian FDA in Banyumas has supervised and guided activities to implement online drug circulation regulations. These activities were based on preventive strategies and repressive efforts. Preventive strategies are made to protect consumers before drugs and food are circulated. This activity serves as a means of guidance for business actors by providing an easy-to-use application for the online distribution of drugs and food. To prevent the circulation of illegal drugs among consumers, FDA conducts outreach through press releases or news about the results of their supervision. Additionally, FDA has developed a mobile application to scan

barcodes related to legal distribution numbers and verify product safety⁸. Repressive efforts against the public who violate regulations are carried out through supervision and enforcement of sanctions or legislation. Based on Minister of Health Regulation No. 8 of 2020, specifically articles 25 and 26, FDA, as the agency's head, is mandated to supervise and guide the safety and accountability of the online circulation of drugs and food⁹.

Surveillance

The Indonesian FDA in Banyumas began implementing online drug distribution surveillance in 2021, following the issuance of Indonesian FDA Regulation No. 8 of 2020, and continues to this day. By forming a cyber-operations team, surveillance is conducted to track the online sales and advertisements of illegal drugs and food. Cyber operations are conducted monthly by performing surveillance and tracing using digital platforms against sites suspected of infringement. The operation will have lists of sites, product names, product contents, and types of violations of online drug circulation. The Deputy Enforcement Agency of the Indonesian FDA, in collaboration with the Ministry of Communication and IdEA (Indonesia E-Commerce Association), will receive the list to handle the removal and closure of content. The IdEA is responsible for blocking or taking down sites or accounts with POD infringements in e-commerce or marketplaces. At the same time, the Ministry of Communications and Information handles the removal of sites and accounts on social media^{9,10,11}.

Guidance

The Indonesian FDA implements its guidance program by offering technical advice or guidance to key sectors involved in the circulation of online drugs, including entrepreneurs, communities, and institutions that act as agents of cross-sectoral collaboration. The guidance is as follows:

1. Entrepreneurs receive training on how to comply with Indonesian FDA regulation No. 8

of 2020 regarding the implementation of online drug circulation, including electronic systems, entrepreneur qualifications, product types, content, and advertising.

2. The public receives training on how to use online drug circulation services responsibly. The community gets this training by disseminating or developing digital educational content, such as mobile application user guidelines on checking the packaging, label, legal permit, and expired date.
3. Training is provided for cross-sector institutions, such as the police, who conduct direct investigations into cases of illegal drug trafficking. Additionally, the Indonesian Ministry of Communication and IdEA receive training on how to execute takedowns of online drug sites that violate the regulation^{9,10,11,27}.

Cases of the Violation of Online Drug Distribution

The Indonesian FDA in Banyumas conducted a cyber operation from January to December 2022, identifying 317 illegal online drug trafficking sites. The Indonesian FDA in Banyumas recommended removing these sites because they lacked distribution permit numbers and contained drug chemicals. A total of 317 sites have sold up to 16.557 illegal products, distributed across various marketplace platforms such as Sofee and Tokopedia and social media platforms like Facebook and Instagram. Table 1 includes the results of the cyber operations report.

Drug commodities that have economic value in the distribution of illegal drugs include herbal drugs, with 216 (68%) sites, 92 (29%) free drug sites, and 9 (3%) cosmetic sites. The most widely distributed illegal drugs are eye drops in herbal preparations at 84%, skin whitening supplements at 9%, male potent drugs at 4%, and the remaining 3% in smaller sales are herbal medicines for uric acid and fattening, slimming, and cosmetics. Figure 1 includes a chart that illustrates the quantity of illegal products sold.

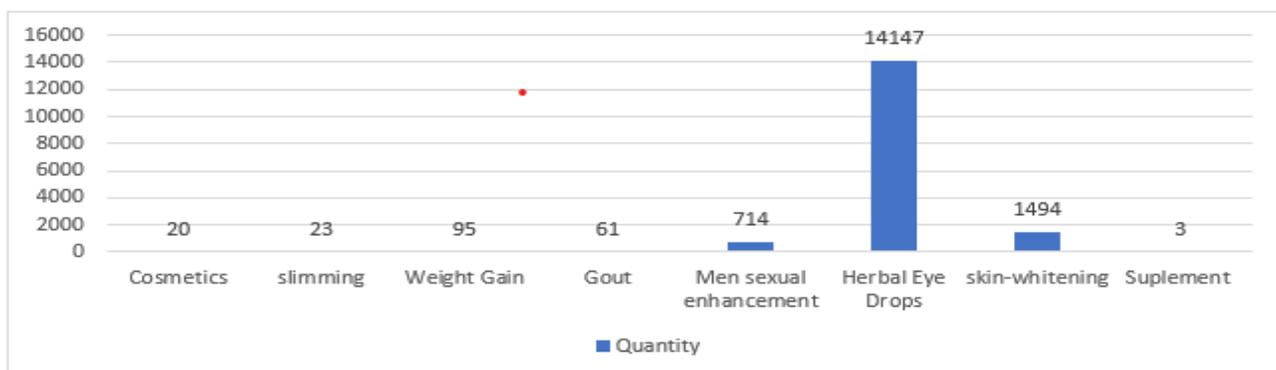


Figure 1. Type and number of illegal products online distributed

Table 1. Cases involving violations of online drug distribution in Banyumas district for the period 2022

Month	Commodity			Number of sales	Type of Violation	Type of Medicine
	Herbal	Drug	Cosmetics			
January			7	20	TIE & BKO	Cosmetics (skin whitening)
February	5	5	1	1666	TIE	Herbal medicine/strong medicine and skin whitener
March	8			12160	TIE	Herbal eye drops
April	19			502	TIE	Male potent drugs
May	6			83	TIE	Male potent drugs
June	96			2063	TIE	Herbal eye drops
July	37			9	TIE	Erectile Dysfunction & gout
August	1	73	1	3	TIE	Supplements
September	5	14		0	TIE	Supplements
October	15			50	TIE & BKO	Gout herbal & Erectile Dysfunction
November	11			11	TIE & BKO	Gout & Erectile Dysfunction
December	13			10	TIE & BKO	Erectile Dysfunction
Total	216	92	9	16577		

Note: TIE = *Tanpa Izin Edar* (No distribution permit); BKO = *Bahan Kimia Obat* (Contains Chemicals)

Herbal eye drops, the highest commodity in illicit drug circulation, do not have a distribution permit number. Furthermore, Health Ministry Regulation No. 7 of 2012, Section 8, prohibits the production or distribution of herbal medicine in the form of eye drops, mandates sterile eye medication that aligns with the pH of the eye fluid, and permits substances that do not irritate the eyes¹². The illegally distributed skin-whitening supplements include capsule preparations and injections containing the active ingredients glutathione, vitamin C, and vitamin D3. The violation category includes failing to have a distribution permit number and violating Indonesian FDA Regulation No. 8 of 2020, Section 27, which prohibits the online distribution of injection preparations. In the illegal drug trade, herbal remedies for men's sexual enhancement and gout are considered economic commodities because they often involve violations, lack a distribution permit, and contain chemical compounds. Cosmetics in the form of face creams are now an economic commodity in the circulation of illegal drugs, falling under the violation category of not having a distribution permit. Test results reveal the presence of drug-like chemical compounds such as hydroquinone and retinoic acid.

Sections 3 and 12 of Indonesian FDA Regulation No. 8 of 2020, as well as Act No. 36 of 2009, section 106 (1), stipulate that the distribution of pharmaceutical products (pharmaceuticals, traditional medicines, and cosmetics) is contingent upon obtaining an override distribution from the Indonesian FDA and adhering to the required properties, qualities, and quality standards of milk. If an entrepreneur fails to comply with these requirements, they may face penalties or sanctions^{12,14,15}.

Apart from the distribution license violations, the presence of chemical drug compounds in

traditional medicines and cosmetics was also found to be a violation. The Ministry of Health Regulation No. 7 of 2012 on the Registration of Traditional Medicines states that medicinal chemicals from synthetic products of active medicines are prohibited from being mixed into traditional medicines¹². In traditional medicine and cosmetics, incorporating chemical drug compounds often aims to enhance the body's natural effects. Mixing chemical drug compounds in traditional medicine and cosmetics usually disregards dosage estimates, which can increase the risk of side effects, interactions between chemicals and drugs, and contraindications to the patient's condition, all of which can be extremely harmful to patients who consume them¹⁶.

The distribution of illegal drugs is very harmful to the public because of the lack of guaranteed safety, efficacy, and quality. That can have a negative impact on them, side effects related to allergy symptoms and organ damage due to inappropriate active substances in both substance and dosage, the health condition of patients who consume them is not improving, decreasing, or even worsening, as well as financial losses due to the high cost of treatment¹⁷. Illegal drug trafficking also violates the provisions of the Consumer Protection Act No. 8 of 1999, which stipulates that consumers have the right to accurate information, product quality assurance, safety, convenience, and safety in the consumption of a product¹⁸.

Discussion

The surveillance results explained that the FDA Indonesia in Banyumas has fulfilled its role and responsibility in implementing regulations on the distribution of online drugs, such as monitoring and construction. However, the implementation has not addressed the problem of online drug circulation.

This problem has not only occurred in Banyumas. In the evaluation conducted in the area of performance, Semarang also showed the same pattern of issues. Although it has been monitored until takedown against illegal drug sites, illegal drug violations online will appear¹⁶. Obstacles to counteracting illegal drug trafficking have emerged due to rapidly growing accounts. However, the implementation of cyber patrols is still manual or semi-automatic, so it has not been able to offset the growth¹⁹. Other factors include the growing number of people who are passively participating in online drug control, as well as the lack of authorities and Indonesian FDA officers involved in the surveillance and control of online drug distribution⁷.

The minimal sanctions against the violator have an impact on the rapid account growth factor. Article 32 of Indonesian FDA Regulation No. 8 of 2020 stipulates that business violators will face administrative sanctions, including warnings, permission withdrawal, or account closure. At the very least, these sanctions allow the perpetrators to re-establish accounts and market illegal drugs that will harm the public. In other words, the imposition of administrative sanctions has not been able to reduce the effect of irresponsible online drug traffickers, and we urgently need stronger sanctions to make perpetrators reconsider their decision to distribute illegal drugs²².

Law No. 19 of 2019 on Electronic Information and Transactions' provisions allows prosecuting online drug trafficking violators in cases of dispute or material breach¹⁸. Reviewing the facts reveals that controlling the illicit drug traffic will be challenging due to the lack of explicit sanctions for the perpetrators.

The second factor that could potentially lead to the violation of online drug circulation is the entrepreneur's lack of knowledge²⁰. The search of 317 sites by an Indonesian FDA officer in Banyumas revealed that neither pharmacists nor pharmaceuticals, who should have authority in the circulation of drugs or nutritious substances, were among the violators. The head of the Indonesian FDA's law enforcement case reaffirmed this claim, asserting that online pharmaceutical stores lack pharmacists and that even businessmen possess limited drug knowledge²². Section 196 of Act No. 36 of 2009 stipulates that individuals lacking the necessary expertise and authority cannot distribute ingredients and medicines. However, Chapter III of the Indonesian FDA No. 8 of 2020 does not impose any special requirements on the entrepreneur to distribute traditional medicine and cosmetics¹⁵. This is in

contrast to Chapter II, which regulates the movement of medicines. Chapter II mandates that the enterprise distributing medicines, including free drugs, must be a pharmacist with a pharmacist practice license from a pharmacy. With the provisions loosened, anyone can become an entrepreneur who distributes free medicines, traditional medicines, and cosmetics online. Businessmen's lack of understanding of the specifications and side effects of the drugs and cosmetics they distribute leads them to overlook the potential adverse effects of the illegal drugs they sell. Entrepreneurs' lack of knowledge also contributes to the high rate of illegal drug trafficking. Therefore, we can offer a solution to curb the danger of illegal drug trafficking by enhancing inter-sectoral collaboration, improving surveillance, and stepping up construction activities to educate offenders about the drug products they distribute, such as herbal medicine, free drugs, and cosmetics. It is also necessary to increase public participation and awareness of the dangers of illegal drug trafficking online in accordance with Indonesian FDA guidelines. This will enable the public to independently protect themselves by verifying authorizations, checking Expiry Date (ED), and actively participating in reporting activities when they discover instances of illegal drug trafficking¹⁸.

Act No. 36 of 2009, Section 196, which prohibits anyone without the necessary expertise and authority from distributing effective substances and medicines, calls for a regulatory review to tighten the rules. Examining the harsher penalties imposed is also essential. Urgent action and a review of the more stringent sanctions imposed to punish the perpetrators are required. We expect the distribution of online drugs to enhance the convenience of online services.

In this study, the data only describes the role of FDA in supervision and coaching activities as a form of implementation of online drug distribution. This study does not yet know the business actors' knowledge level and the community's role in overcoming online drug distribution. However, previous studies have stated that the low level of knowledge and business actors also contribute to the high level of illegal drug distribution. Hence, the solution that can be offered to overcome the dangers of illegal drug distribution is to increase collaboration between sectors to improve supervision and increase coaching activities to provide knowledge to actors related to drug products that they distribute^{21,24}. Or tighten the rules and sanctions in accordance with Law No. 36 of 2009 Article 196, which states that anyone who does not have the expertise and authority

is not allowed to distribute efficacious materials and drugs. Coaching also needs to be carried out for the community regarding public participation and awareness of the dangers of online illegal drug distribution, according to a study of FDA appeal in 2020, so that the community can independently protect themselves by checking distribution permits, checking the Expiry Date (ED), before purchasing drugs and reporting if they find any violations of illegal drug distribution¹⁹. With the collaboration and participation of all sectors involved in online drug distribution, it is hoped that there will be increased security and convenience in online drug distribution services.

In addition, it may be necessary to review the sanctions given to perpetrators of illegal drug trafficking, which are too light. The rapid growth factor of accounts may be influenced by the lack of sanctions imposed on perpetrators in Chapter IX Article 32 of Indonesian FDA Regulation No. 8 of 2020; business actors who violate will be subject to administrative sanctions with warnings and then revocation or closure of facility or account permits. This lack of sanctions provides an opportunity for perpetrators to create accounts again and market illegal drugs, which will undoubtedly harm the community. In other words, the imposition of administrative sanctions has not been able to create a deterrent effect on irresponsible online drug dealers, so stricter sanctions are needed to make perpetrators think again if they are going to distribute illegal drugs²⁰.

Conclusions

The interviews and data collection results show that *Loka Pengawas Obat dan Makanan (Loka POM)* Banyumas, or Indonesian FDA in Banyumas, has carried out its duties and implemented online drug distribution regulations with supervision and coaching strategy. However, violations of online drug distribution have not been eliminated. In this study, the data only describes the role of FDA in supervision and coaching activities as a form of implementation of online drug distribution. This study does not yet know the business actors' knowledge level and the community's role in overcoming online drug distribution.

Although this study only shows the number of incidents of online drug distribution violations and the causal factors cannot be studied with certainty, based on the data obtained and studies in previous studies, it can be concluded that the relatively rapid growth of accounts, not balanced with monitoring

activities, is an obstacle to online drug distribution. Minimal sanctions provide a rapid growth factor, deterring perpetrators from receiving legal sanctions^{19,20}.

Increased supervision and cross-sector collaboration are needed to overcome obstacles to online drug distribution and increase coaching activities for business actors and the community. The current regulatory review aims to increase sanctions that can significantly impact perpetrators of drug trafficking.

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Author Contribution

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Data acquisition : INR
Data analysis : INR
Manuscript writing : INR, DW, GFG

Ethical Consideration

Health Research Ethics Committee, Muhammadiyah University Purwokerto: KEPK/UMP/50/XII/2022

Competing Interests

None.

Abbreviation

BKO : *Bahan Kimia Obat Obat* (Contains Chemicals)
BPOM : *Badan Pengawas Obat dan Makanan*
ED : Expiry Date
FDA : Food and Drug Authority
IdeA : Indonesia E-Commerce Association
Loka POM : *Loka Pengawas Obat dan Makanan*
TIE : *Tanpa Izin Edar* (No distribution permit)

References

1. Gusti. Transaksi Penjualan Online Naik 400 Persen di Masa Pandemi Covid-19 | Universitas Gadjah Mada [Internet]. 2020. Available from: <https://www.ugm.ac.id/id/berita/19452-transaksi-penjualan-online-naik-400-persen-di-masa-pandemi-covid-19>
2. Gusmiwalti Indah. Analisis isu aktual: penyalahgunaan penjualan obat secara online. 2020.
3. Afianto H, Qona'ah S. Strategi BPOM Dalam Upaya Mengatasi Pemberantasan dan Penyalahgunaan obat Ilegal Melalui Gerakan

- “Waspada Obat Ilegal.” J Komun. 2020;11(30):43–50.
4. Untung Suseno Sutarjo. Pretty Multihartina. Mukti Eka Rahadian. et al. (2019) ‘Policy brief. Kebijakan dan Regulasi tentang Pelayanan Kesehatan Berbasis Sistem Elektronik atau Digital di Indonesia’, *Pusat Analisis Determinan Kesehatan Kementerian Kesehatan RI*.
 5. BPOM RI (2020) ‘Peraturan BPOM No 8 Tahun 2020 tentang Pengawasan Obat dan Makanan yang Diedarkan Secara Daring’, *Badan Pengawas Obat dan Makanan*, 53, pp. 1689–1699.
 6. Juwanti Leli, Marta Tilov H. Perlindungan Hukum Terhadap Konsumen Atas Penjualan Obat-Obatan Ilegal Secara Online. *Klausula (Jurnal Huk Tata Negara, Huk Administrasi, Pidana Dan Perdata)*. 2018;1(2):93.
 7. Ariestiana E. Analysis of Drugs and Certain Medicines Circulation Through Online Media. *Indones Priv Law Rev*. 2020;1(2):65–76.
 8. Atensi. Aliansi Telemedik Indonesia (ATENSI) [Internet]. Available from: <https://atensi.or.id/anggota>
 9. Bpom No 34 Tahun 2018 Tentang MP 2d B. Badan pengawas obat dan makanan republik indonesia. Bpom 2022 p. 1–16.
 10. BPOM. strategi bpom. BPOM RI.
 11. Indonesian E-Commerce Association. Perpanjangan Nota Kesepahaman (MoU) BPOM RI dengan idEA. Available from: <https://idea.or.id/artikel/perpanjangan-nota-kesepahaman-mou-bpom-ri-dengan-idea?lang=id>
 12. Kesehatan, K. (2023) *Selamat Datang di Sistem PSEF*. Available at: <https://psef.kemkes.go.id/>.
 13. Kemenkes. Peraturan Menteri Kesehatan Republik Indonesia Nomor 007 Tahun 2012 Tentang Registrasi Obat Tradisional. *Kemenkes RI*. 2012;(8.5.2017):2003–5.
 14. BPOM RI. Peraturan BPOM No 8 Tahun 2020 tentang Pengawasan Obat dan Makanan yang Diedarkan Secara Daring. *Badan Pengawas Obat dan Makanan*. 2020;53:1689–99.
 15. Perpres RI. Undang-Undang Republik Indonesia Nomor 36 Tahun 2009 Tentang Kesehatan. *Republik Indonesia indonesia*; 2009 p. 1–8.
 16. Sukohar A, Ramdini DA, P CY, Triyandi R, Iqbal et a. Penyuluhan Waspada Bahan Kimia Obat (BKO) Dalam Obat Tradisional Pada Masyarakat Agromedicine Di Desa Cipadang Kecamatan Gedong Tataan Kabupaten Pesawaran. *JPM Ruwa Jurai*. 2022;7(November):9–15.
 17. Badan POM. Peduli Obat dan Pangan Aman. *Gerak Nas Peduli Obat dan Pangan Aman*. 2015;(7–8):20.
 18. Indonesia PR. UU No. 8 Tahun 1999 Perlindungan Konsumen [Internet]. UU no 8 tahun 1999 perlindungan konsumen, UU No 8 Tahun 1999 Ppublik Indonesia; 1999 p. 1–6.
 19. Pambudi DB, Raharjo D. Perlindungan Hukum Bagi Konsumen Terhadap Obat Tradisional Tanpa Izin Edar Di Media Online. *Pros Univ Res Colloq*. 2020;21–5.
 20. Cahyani, Adinda Fitri UW. Problematika Dalam Penegakan Hukum Dan Penanggulangan Peredaran Obat Ilegal Melalui E-Commerce Oleh Bbpom Semarang. *UIN Walisongo Semarang*; 2022.
 21. Untung Suseno Sutarjo. Pretty Multihartina. Mukti Eka Rahadian. et al. Policy brief. Kebijakan dan Regulasi tentang Pelayanan Kesehatan Berbasis Sistem Elektronik atau Digital di Indonesia. *Pusat Analisis Determinan Kesehatan Kementerian Kesehatan RI*. 2019;
 22. Badan POM (2015) ‘Peduli Obat dan Pangan Aman’, *Gerakan Nasional Peduli Obat dan Pangan Aman*, (7–8), p. 20.
 23. Cahyani, Adinda Fitri, U.W. (2022) Problematika Dalam Penegakan Hukum Dan Penanggulangan Peredaran Obat Ilegal Melalui E-Commerce Oleh Bbpom Semarang. *UIN Walisongo Semarang*.
 24. Athiyah, U. et al. (2019) ‘Assessment of pharmacists’ knowledge, attitude and practice in chain community pharmacies towards their current function and performance in Indonesia’, *Pharmacy Practice*, 17(3), pp. 1–7. Available at: <https://doi.org/10.18549/PharmPract.2019.3.1518>.
 25. APJI (2022) ‘Hasil Survey Profil Internet Indonesia 2022’, *Apji.or.Od [Preprint]*, (June). Available at: apji.or.id.
 26. BPOM (2020) ‘Berita Negara’, *Peraturan BPOM No 32 Tahun 2020, Perubahan Peraturan BPOM No. 8 Tahun 2020*, 69(555), pp. 1–53
 27. BPOM, P., Pengawas, B. and Dan, O. (2022) ‘Panduan Bpom Mobile – Play Store Badan Pengawas Obat Dan Makanan’.