

## **Criminal Enforcement against Illegal Cosmetic and Risk Factors for Herbal Product Legislation**

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### **Abstract**

This Mixed-method Study was aimed to examine situation and identifying risk factors for herbal product legislation, among 200 grocery store owners in the community, Sakon Nakhon Province, Thailand. Furthermore, the study team developed a surveillance system as an application to oversee online advertising on platforms such as Facebook, TikTok, and Line Application, 445 times, during the period from June 2023 to April 2024. Also included were 26 government sectors for focus group discussion. The investigation revealed that the majority of samples were female at 59.00%, small grocery stores constituted 62.00%, and the products offered included food supplements at 45.30% and food at 55.70%. They were law violated for herbal product legislation 27.50% to 87.50%. There were breaches of safety standards oversight and advertising supervision. In addition, risk factors for legal infractions include unauthorized advertising, misleading and overstated advertising, and manufacturers' lack of ethical standards  $p < 0.05$ .

**Keywords:** Risk factor, Criminal enforcement, Against illegal, Surveillance system, Herbal Product, Legislation.

### **Introduction**

The extensive biochemical and physiological context in which aging happens in humans makes it a very complicated process. Among the many changes that occur with age, the most significant ones are inflammaging and changes in immunological reactivity linked to cell development stages. (Ferrucci & Fabbri, 2018; Fülöp et al., 2019). Herbal compounds are promising alternatives to synthetic products for treating skin (Kumar et al., 2024). The use of herbal products for facial treatments has gained significant popularity due to their natural ingredients and minimal side effects. These products, including face packs, serums, face washes, scrubs, and creams, are formulated with various plant-based components known for their beneficial properties (Lee et al., 2021). Herbal facial treatments aim to address common skin issues such as acne, hyperpigmentation, and oiliness while promoting overall skin health (Gaikwad et al., 2024; Wasnik et al., 2024). The use of herbal products, while popular for their perceived natural benefits, poses several significant problems related to safety, efficacy, and regulation. Herbal products are often contaminated with heavy metals, toxic chemicals, or adulterated with unauthorized substances to enhance their effects. This poses significant health risks, including acute hepatic and renal failure (Sharma et al., 2024). The regulation of herbal products is less stringent compared to conventional drugs, leading to issues

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with purity, potency, and labeling accuracy. This lack of regulation contributes to the prevalence of contaminated and misbranded products (Wright, 2019).

Illegal herbal products are a growing concern due to their potential health risks and the deceptive practices involved in their production and sale. These products often contain undeclared synthetic substances, which can lead to serious side effects. The characteristics of illegal herbal products can be categorized into several key aspects, including adulteration with synthetic drugs, misleading labeling, and the potential for harmful health effects. Many illegal herbal products are adulterated with synthetic drugs to enhance their efficacy (Jitäreanu et al., 2022; Koppel et al., 2017). A product sold as a herbal medicine was found to contain piroxicam and orphenadrine, with no natural ingredients present (Mendonca et al., 2016). The marketing of these products often exploits the perception of herbal products as safe and natural, despite the presence of synthetic additives (Končić, 2018). The addition of synthetic drugs to herbal products can lead to serious health risks, including adverse drug reactions and toxicity. For example, the presence of sibutramine in weight loss products can lead to cardiovascular issues (Firozian et al., 2021). The lack of transparency in labeling means consumers are unaware of the potential interactions with other medications they may be taking, increasing the risk of adverse effects (Calahan et al., 2016).

Regulatory and Safety Concerns, the sale of illegal herbal products is facilitated by the internet, making it difficult for regulatory bodies to monitor and control their distribution. There is a need for more stringent surveillance and regulation to protect consumers from these unsafe products (Phakdeekul et al., 2011; Mendonca et al., 2016). Especially, during the COVID-19 pandemic, there has been a significant demand for herbs for disease prevention and treatment, and wellbeing for at-risk populations, including children, the elderly, and people with chronic illnesses (Kedthongma, and Phakdeekul, 2022; Chuayruksa et al., 2023). utilized through ingestion or aerosolization to modulate the immune, circulatory, and hormonal systems across all age population trends (Seesanor et al., 2023). This has consequently led to an increase in susceptibility to deception by fraudsters via social media. This situation is exacerbated by the lack of stringent regulations and the global nature of online sales, which complicates enforcement and accountability (Koppel et al., 2017; Ichim, 2019).

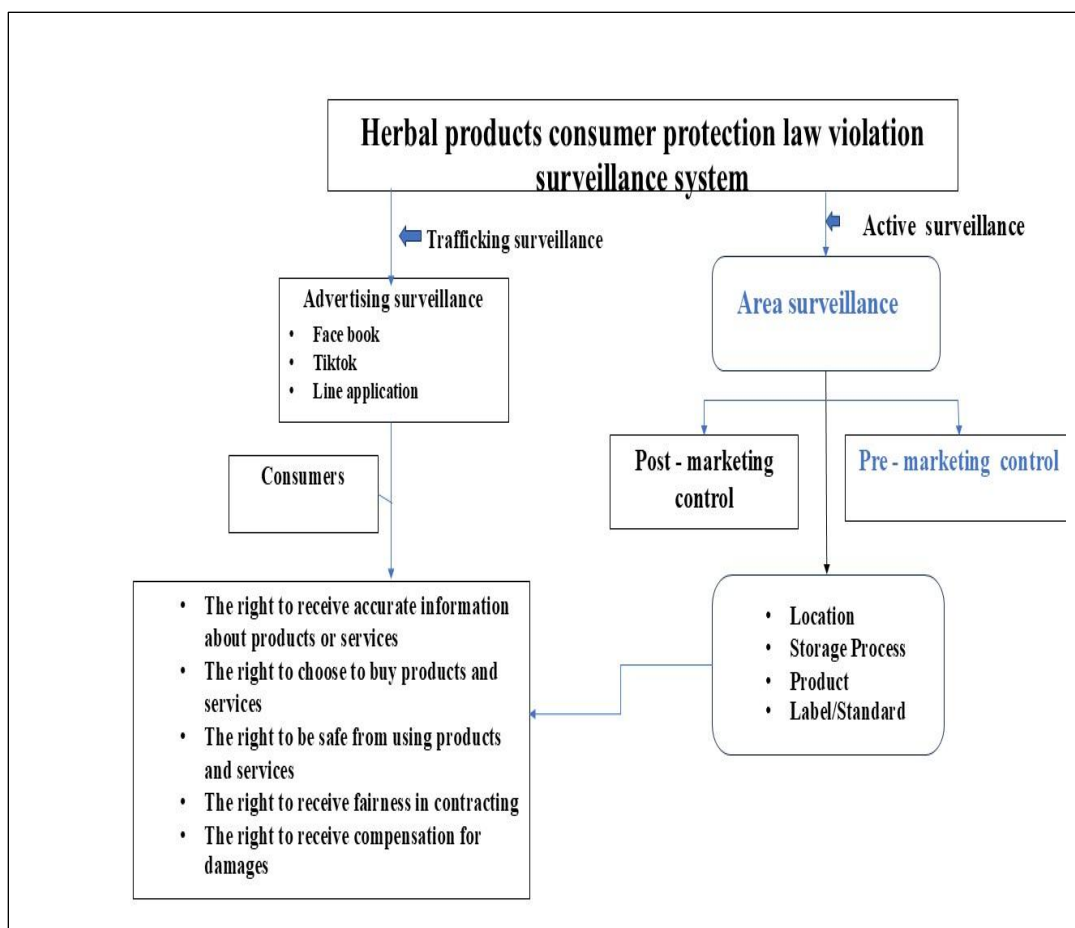
While illegal herbal products pose significant risks, it is important to recognize the broader context of consumer demand for natural and holistic health solutions. This demand often drives the market for herbal products, including those that are illegally adulterated. Consumers may be drawn to these products due to dissatisfaction with conventional medicine or a desire for alternative treatments. However, this highlights the need for better education and awareness about the potential dangers of unregulated herbal products and the importance of purchasing from reputable sources. Therefore, this study was aimed to examine the legal violations concerning herbal products, the underlying elements contributing to these violations, and to facilitate the rectification and prevention of consumer safety issues.

### Materials and methods

A Mixed methods design was used to quantitative and qualitative method.

1) The quantitative process included data collecting from 200 grocery store owners in the community, Sakon Nakhon Province. The sample size was calculated via the G\*power program, with an effect size of .05, an alpha level of .05, and a test power of .95, while accounting for a ratio of 20:1 between the sample size and the number of variables. The total of 200 samples, and employing the multiple-stage sampling method.

The tool used to collect feedback from consumers on herbal items. A closed-ended survey concerning consumers' online media consumption habits. The questionnaire follows a checklist approach. The research team converted the data into a Google Form system and distributed it via the Line application or e-mail address to the randomly selected samples, see figure 1.



**Figure 1:** Monitoring system for violations of consumer protection laws on herbal products.

Data were analyzed by descriptive statistics: Percentage, Mean, Standard Deviation, and inferential statistics: Chi-square, Multiple Logistic Regression, the

Adjusted Odds Ratio was equivalent to the adjusted OR ( $OR_{MH}$ ) calculated using the Mantel-Haenszel technique, and 95% Confidence Interval.

2) Qualitative process, the research team decided to survey of 200 grocery stores inside the Mueang District, Sakon Nakhon Province. To investigate the importation of herbal items, encompassing product categories, packaging, compliance expiration dates, and further specified requirements. Additionally, the research team created a surveillance system as an application to monitor online advertising on platforms such as Facebook, TikTok, and Line, from June 2023 to April 2024. Also included were 26 government sector representatives (e.g., administrative officers, police, excise officers, and public health officials). who participated in focus groups to gather qualitative data from key informants. Due to its exploratory nature, qualitative content analysis was chosen for our research. The advantages of qualitative content analysis lie in its emphasis on context-dependence, subjectivity, process-flexibility, and interpretation.

#### **Ethical approval**

This study was conducted by the Declaration of Helsinki. All the participants provided informed consent before participating in the study.

#### **Results**

##### **Type of Participants**

The findings indicated that the majority of the samples were females 59.00% (average age  $35.50 \pm 10.75$  years), and farmers 84.50%. Most establishments were small grocery stores 62.00%, offering products including food supplements 45.30%, and food 55.70%, as detailed in Table 1.

**Table 1 General data of samples (n=200)**

General data of samples	Percentage
<b>Gender</b>	
Male	41.50
Female	58.50
<b>Age</b>	
15 - 25 years	57.00
26 - 59 years	43.00
$\bar{x} = 35.50$ , S.D. = 10.75, Max = 52, Min = 22	
<b>Occupation</b>	
Farmers	84.50
investor	6.00
Factory workers	9.50
<b>Types of the store</b>	
Convenience Store	12.00
Specialty Store	26.00

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Grocery Store	62.00
<b>Types of herbal products sold in the shop (you can answer more than one question)</b>	
Food supplements	45.30
Food	55.70
Medicine	5.50
Cosmetics	25.40

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### **Criminal enforcement against illegal cosmetic**

Addressing the distribution and promotion of unregistered and potentially hazardous cosmetics necessitates. A multifaceted approach to criminal enforcement. The risks to public health associated with the use of illicit cosmetics. Which often contain hydroquinone and corticosteroids. Their enforcement is more significant. Law enforcement, public awareness initiatives, and regulatory bodies must collaborate for enforcement to be efficacious. This document provides a summary of the key elements of the criminal enforcement strategy targeting illicit cosmetics. The results of the synthesis of data from the qualitative research process found that:

#### **Regulatory and enforcement challenges**

The Food and Drug Supervisory Agency plays a critical role in monitoring and enforcing regulations against illegal cosmetics. However, challenges such as inadequate supervision and reliance on public reports hinder effective enforcement. High permit costs and slow processing times contribute to the proliferation of illegal cosmetics, as business actors may bypass legal channels to avoid these hurdles.

#### **Role of Social Media and Influencers**

Social media platforms, particularly Facebook, TikTok, had become significant channels for advertising illegal cosmetics. Influencers often promote these products without verifying their legality, complicating enforcement efforts.

Law enforcement in regions was exploring juridical-empirical approaches to regulate influencer activities, and ensure compliance with cosmetic regulations.

#### **Health risks and consumer protection**

Illegal cosmetics pose significant health risks, including systemic and local side effects from unregulated ingredients. In the EU, many illegal products contain potent pharmaceuticals not suitable for cosmetic use.

Consumer protection requires stringent enforcement of labeling regulations to prevent allergic reactions, and other health issues associated with illegal cosmetics.

#### **Countermeasures and strategies**

Effective countermeasures include pre-emptive, preventive, and repressive strategies. These involve routine inspections, public education, and legal actions against violators. Obstacles, such as limited resources and infrastructure need to be addressed to enhance enforcement capabilities.

Criminal enforcement is necessary. Considering the broader environment of consumer awareness and education is equally essential. Equipping customers

with awareness regarding the dangers of illicit cosmetics. The significance of acquiring registered products can enhance enforcement initiatives and diminish the market for illegal products.

### **The problems of violation of consumer protection laws**

Thailand had implemented rules and regulations to safeguard users of dietary supplements for decades. Nonetheless, the problem of dietary supplement consumer rights violations persists, as evidenced by complaint figures and press headlines across numerous media outlets. The result of surveillance system as an application to oversee online advertising on platforms, during the period from June 2023 to April 2024. The findings of monitoring and identifying advertising malfeasance were as follows: Facebook: 150 instances, TikTok: 120 instances, and Line application: 175 instances, total 445 items.

The misconduct is classified according to the nature of the offense as follows. This study has classified the issues into two categories:

1) Deficiencies in the oversight of safety requirements, characterized by inadequate supervision prior to market release (84.75%). Lack of legal frameworks or mechanisms for food product recalls (67.50%). Furthermore, insufficient coordination in operations (48.75%).

2) Challenges in advertising control are marked by imprecise legislative stipulations (87.50%), mild punishments (55.00%), and unscrupulous manufacturers (49.5%), as illustrated in Table 2.

**Table 2** the proportion of problems of violation of consumer protection laws

<b>Problems of violation of consumer protection laws (You can answer more than one question)</b>	<b>Percentage</b>
Problems of advertising supervision	84.75
Advertising without permission	67.5
Advertising that is deceptive and exaggerated	48.75
Manufacturers lack morality and focus on sales	74.5
Legal provisions are unclear	64.5
Fragmentation of work	27.5
<b>Problems of supervision of safety standards (You can answer more than one question)</b>	
Mild penalties	87.5
Lack of strict supervision before and after market launch	55.0
No law or measures on food product recall	49.5
Lack of cooperation in operations	35.0

### **Risk Factors for Herbal Product Legislation**

The research team surveyed of 200 grocery stores in the study region and determined. The findings influencing to violations of consumer protection laws concerning herbal items as follows: problems of advertising supervision,

advertising without permission, misconceptions about product value. Advertising, that was deceptive and exaggerated, manufacturers lack morality and focus on sales. Legal provisions were unclear, and fragmentation of work, indicating a significant risk factors for herbal product legislation ( $p < 0.05$ ).

In addition, the poor level of knowledge of consumer protection laws. The consumers lack knowledge and understanding of products, and problems of supervision of safety standards, indicating a significant risk factors for herbal product legislation ( $p < 0.0001$ ), see table 3.

**Table 3 Risk Factors for Herbal Product Legislation ( $n=200$ )**

Factor	laws violations		OR <sub>MH</sub>	95% CI		P-value
	Yes	No		Lower	Upper	
1. Problems of advertising supervision						
No	147(86.00)	24(14.00)	0.21	0.12	0.68	0.011*
Yes	28(96.60)	1(3.40)				
2. knowledge of consumer protection laws						
low	161(92.50)	13(7.50)	10.61	4.08	27.61	0.000**
high	14(53.80)	12(46.20)				
3. Advertising without permission						
No	9(81.80)	2(18.20)	0.62	0.12	0.091	0.018*
Yes	166(87.70)	23(12.20)				
4. Misconceptions about product value						
High	149(90.30)	16(9.70)	3.49	1.38	8.79	0.006*
Low	24(72.70)	9(27.3)				
5. Advertising that is deceptive and exaggerated						
No	88(90.70)	9(9.30)	1.79	0.75	4.28	0.011*
Yes	87(84.50)	16(15.50)				
6. Consumers lack knowledge and understanding of products						
High	142(89.30)	17(10.70)	7.21	3.26	15.95	0.000**
Low	22(53.70)	19(46.30)				
7. Manufacturers lack morality and focus on sales						
No	10(79.9200)	3(23.08)	0.51	0.28	0.92	0.019*
Yes	162(87.30)	25(12.70)				
8. Legal provisions are unclear						
No	142(90.40)	15(19.60)	2.86	1.18	6.95	0.016*
Yes	33(76.70)	10(23.30)				
9. Fragmentation of work						
No	37(90.24)	4(9.76)	1.41	1.03	2.19	0.001*
Yes	138(86.79)	21(13.21)				

Factor	laws violations		OR <sub>MH</sub>	95% CI		P-value
	Yes	No		Lower	Upper	
10. Problems of supervision of safety standards						
Mild penalties	170(90.90)	17(9.10)	16.00	4.27	54.38	0.000**
Lack of strict supervision before and after market launch	5(38.46)	8(61.54)				

Note: \*p<0.05, \*\* p<0.0001

## DISCUSSION

### Situation of Problems of violation of consumer protection laws

The main findings of this research indicated that advertising violations reached as high as 48.75% to 84.75%. This finding is consistent with studies in other countries. The violation rate of the Consumer Protection Act varies significantly across different regions and is influenced by several socio-economic and legal factors. Sus as in India, despite the enactment of the Consumer Protection Act in 1986, consumers continue to face challenges such as misleading advertisements and unsatisfactory services, indicating a persistent violation rate due to inadequate enforcement and consumer awareness (Mandal, 2018). Similarly, in Bangladesh, consumer rights violations are rampant, exacerbated by factors like illiteracy, weak law enforcement, and political influence, which allow unscrupulous businesses to exploit consumers. In South Africa, the Consumer Protection Act of 2008 was introduced to address consumer exploitation, yet socio-economic conditions such as poverty and illiteracy continue to contribute to a high violation rate, as consumers often lack the bargaining power to negotiate fair terms (Alam & Haq, 2016).

### Violation rates and legal frameworks

The shortcomings and crucial issues developing from current, multi-channel, and fast evolving. When it comes to the breach of health product consumer protection legislation, the multimedia systems don't matter. Legal infractions involving advertising and online sales occur at a heightened rate of 84.75%, according to this research. Many studies in other parts of the world have shown this trend, including those in Indonesia and Thailand. It forbids deceptive advertising and punishes offenders with trade prohibitions. Alternatively, it permits course corrections without causing a halt to commercial operations (Putri, 2024). Worldwide Movements: Developing nations, notably Indonesia and Thailand. They passed consumer protection rules quickly, but there has been no consistent enforcement, therefore the rates of violations are all over the map (Sahoo & Chatterjee, 2009).

### Problems in advertising supervision

Consumer awareness and redressal: Many consumers remain unaware of their rights. The available redressal mechanisms, which hinders effective supervision, and enforcement of advertising standards (Sahoo & Chatterjee, 2009).

### Challenges and Recommendations

Enforcement and cooperation: Effective consumer protection requires cooperation among government, businesses, and consumers. Strengthening enforcement and increasing consumer awareness are crucial steps. Legal and



Institutional Support: Establishing functional redressal forums and enhancing the powers of consumer protection agencies can improve compliance and reduce violations (Sahoo & Chatterjee, 2009).

While consumer protection laws are in place. The effectiveness of advertising supervision is often undermined by inadequate enforcement, and consumer awareness. Addressing these issues requires a multifaceted approach involving legal reforms, institutional support, and active consumer participation.

#### **Factors Contributing to Violation Rates**

Identifying the factors that lead to infractions of herbal product rules is crucial for determining the fundamental causes of the issue. The results of this study are derived on actual community surveillance and surveys. And consider risk factors for legal infractions. Both internal aspects of entrepreneurs and external factors contribute to the challenges in enforcing safety requirements. The complexities in the regulation of advertising factors. The results corroborate previous studies as outlined below:

**Inadequate Enforcement:** In India, the enforcement of consumer protection laws is often weak, leading to continued violations despite the presence of legal frameworks (Mandal, 2018).

**Socio-economic conditions:** In South Africa, socio-economic factors like poverty and illiteracy make consumers more vulnerable to exploitation, contributing to a higher violation rate ("Consumer protection and service delivery by the retail industry in the greater Durban area : the legal implications of the Consumer Protection Act 68 of 2008", 2022) (Lombard, (2023).

**Legal and institutional weaknesses:** In Bangladesh, the lack of strong legal frameworks, and effective government organizations allows for widespread consumer rights violations (Alam & Haq, 2016).

#### **Strategies for reducing violation rates**

**Improved law enforcement:** Implementing cost-efficient enforcement strategies, as suggested by Labarbera and Melnick, can help target violators effectively and reduce violation rates (Labarbera & Melnick, 1987).

**Consumer awareness and education:** Increasing consumer awareness about their rights can empower them to demand better protection and reduce exploitation (Alam & Haq, 2016).

**Strengthening legal frameworks:** Establishing robust legal and institutional frameworks can help in better enforcement of consumer protection laws ("Consumer protection and service delivery by the retail industry in the greater Durban area : the legal implications of the Consumer Protection Act 68 of 2008", 2022) (Lombard, (2023).

While these papers highlight the challenges and factors contributing to the violation of consumer protection laws. They also suggest that a combination of improved enforcement, consumer education. The stronger legal frameworks could potentially reduce these violations. However, the effectiveness of these measures largely depends on the socio-economic context and the political will to implement them effectively.

## Conclusion

The results of the mixed-method research. Which encompassed a surveillance system, interviews, and observations in both field settings and social media. Contexts supplied data that provides a thorough and nuanced view of violations of herbal product law. Data reveals that law infractions vary between 27.50 and 87.50 percent. The primary issues involve violations of safety requirements and oversight of advertising regulations. The recognized risk factors for legal violations encompass unauthorized advertising, deceptive and exaggerated advertising, and manufacturers' deficiency in ethical standards with a focus on sales. The legal provisions are ambiguous, leading to job fragmentation. At statistical significance ( $p < 0.05$ ).

## Suggestions

The enforcement of laws against illegal cosmetic businesses and the distribution of unlicensed cosmetic products is a multifaceted issue that involves various legal frameworks and enforcement strategies.

The primary focus is on ensuring public safety and maintaining the integrity of the cosmetic market.

This involves a combination of regulatory oversight, legal penalties, and proactive enforcement measures.

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