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The development of prioritization method for consumer protection risk management of unsafe products

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Objective: The objective of this study was to develop the criteria for priortizing unsafe products, as part of the consumer protection management.
Methods: The study was conducted by reviewing relevant literature, drafting criteria for priority unsafe products, testing the criteria with some unsafe products for applicability, setting elements with their weight and perceived degrees for each element. Then the prioritization method under the real situation was implemented in 10 provinces and 3 districts across Thailand.
Results: The study found that the criteria consisted of two main topics: risk assessment and possibility of risk management. The risk assessment had eight aspects including health impact (30%), effected population (20%), using/contacting frequency (10%), estimated contact and effected population (10%), residue remains in environment and may cause human harm (10%), produce/use quantity (10%), international action (the country level of 10% and province and district level of 5%) and domestic action (no ratio for country, province and district rate, 5%). The possibility of risk management had six aspects including the availability of substitution (10%), price of substitution goods in consumer's views (10%), quality of substitution goods in consumer's views (10%), degree of effects on manufacturer, entrepreneur and stakeholders (10%), cooperation of public, consumer, scholar, state agency, entrepreneur and politician (the country and province level of 40% and district level of 50%) and politics related to government policy (the country and province level of 20% and district level of 10%)
Conclusion: The newly developed criteria for the priority of unsafe products can be used as a tool for screening the significant problems of unsafe products to operate the consumer protection. However, there may be some limitations about the availability of technical databases on unsafe products to support the prioritization.

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Introduction

Unsafe products come in variety which significantly post daily risk to consumer. These produces can be harmful to consumer's health at different level from mild to severe, and even lethal. Limitation of resources causes in capability in management of unsafe product in a simultaneous manner. At present, consumer protection's risk management of unsafe product has no systematic criteria to screen unsafe product. The government policy or the responsibility of regulatory body has an important role in risk management; for example, establish a nation-wide campaign against unsafe products. This study aimed at developing criteria for prioritizing unsafe products' problems for consumer protection.

Methods

Issuing the priority of unsafe product has the following process:
1.Review literatures that involve in unsafe product and prioritize the problems/risks.
2.Draft criteria for priority unsafe product and setting elements, their weight, and perceived degree for each element.
3.Establish conference concerned specialist team including relevant policy maker, representative of consumer protection, consumer organization, jurist and consumer protection specialist to develop the criteria that indicate the problem level for operating consumer protection and give some advices to improve the criteria.
4.Test the criteria to prioritize three selected unsafe products and improve the criteria.
5.Provide implementation process of the criteria and document a manual for the prioritization unsafe product to use in consumer protection process in province and district.
6.Test the criteria by prioritize the unsafe product in 10 provinces and 3 districts which are the area that provincial public health pharmacist and community hospital pharmacist are in the project and are key person in using criteria for priority of unsafe product to implement in responsible area.
7.Improve the criteria for priority of unsafe product for further use in other areas.

Results
The results reveal that the criteria of priority the unsafe product for consumer protection consisting of 2 main criteria which are risk assessment and possibility of risk management.

Risk assessment Risk assessment elements with percentage of weight of each element to prioritize the unsafe product comprise of health impact (30%), effected population (20%), using/contacting frequency (10%), estimated contact and effected population (10%), residue remains in environment and may cause human harm (10%), produce/use quantity (10%),international action (country level 10%, province and district level 5%) and domestic action (no ratio for country, province and district rate 5%) as shown in Table 1.

Risk assessment elements and their weight percentage to prioritize the unsafe product were used for a designated prioritization committee to calculate the risk score of unsafe product. The score of each element comes from the multiplication of percentage of each element and perceived degree of each element based on the agreement of the committee. The lowest score is 1 point and the highest risk score is 4 points, therefore the total score in this risk assessment criteria is 400.
In issuing prioritization, other than using result from risk assessment on unsafe product, it should have possibility of risk management to co-consider especially in case of there are many unsafe products at the same level of risk management.

Table 1. Risk assessment elements and their weight percentage to prioritize the unsafe product

Order	Risk assessment elements	Weight percentage		
		Country	Province	District
1	Health Impact	30	30	30
2	Effected Population	20	20	20
3	Using /Contacting frequency	10	10	10
4	Estimated contact and effected population	10	10	10
5	Residue remains in environment and may cause human harm	10	10	10
6	Produce/Use quantity	10	10	10
7	International Action	10	5	5
8	Domestic Action	0	5	5
	Total	100	100	100

Possibility of risk management. Possibility of risk management elements with their weights that are used for prioritize the unsafe product comprising of substitution goods (10%), price of substitution goods in consumer view (10%), quality of substitution goods in consumer view (10%), degree of effecting to stakeholders (10%), the cooperation of public/consumer/scholar/state agency/manufacturer/politician partnership (country and province level 40% and district level 50%) and the policy that has politic related policy/ government policy (10%) as shown in table 2.

Table 2. Elements of possibility of risk management and their weight percentage to prioritize the unsafe product

Order	Risk assessment elements	Weight percentage		
		Country	Province	District
1	Cooperative of Public/Consumer/Scholar/ State agency/Manufacturer/Politician partnership	40	40	50
2	Politic related policy/ Government policy	20	20	10
3	Substitution/Option goods	10	10	10
4	Price of substitution goods in consumer view	10	10	10
5	Substitution goods quality in consumer view	10	10	10
6	Degree of effecting to manufacturers/entrepreneurs/stakeholders	10	10	10
	Total	100	100	100

Similar to the risk assessment elements and their weight percentage to prioritize the unsafe product, the elements of possibility of risk management and their weight percentage to prioritize the unsafe product were used for a designated prioritization committee to calculate the score of possibility of risk management of unsafe product. By the same way, the score of each element comes from the multiplication of weighted percentage of each element and perceived degree of each element based on the agreement of the committee. The lowest score is 1 point and the highest risk score is 4 points, therefore the total score in this risk assessment criteria is 400.

Table 3 shows the three examples of unsafe product including Bisphenol A (BPA), Cooked oil, and Asbestos using possibility of risk management to calculate the score of each element and the total score. After implementing the developed possibility of risk management for prioritize unsafe product on currently operating unsafe products, which are Bisphenol (BPA) as the component of baby/infant bottle, Cooked oil (used frying oil) and Asbestos containing product, using national possibility of risk management for unsafe product, found that Cooked oil got highest possibility of risk management which rate 97.5% , Asbestos containing product and BPA as the component of baby/infant bottle got the same possibility of risk management which rate 77.5% as shown in table 3.

Table 3. Three examples type of unsafe product using possibility of risk management; Bisphenol A (BPA), Cooked oil, Asbestos

Elements of Possibility of risk management	Weight (Percentage)	Total score	Score of each selected unsafe product		
			BPA	Cooked oil	Asbestos
1.Cooperative of Public/Consumer/Scholar/ State agency/Manufacturer/Politician partnership	50	200	150	200	150
2.Politic related policy/ Government policy	10	40	0	40	10
3.Substitution/Option	10	40	40	40	40
4.Price of substitution goods in consumer view	10	40	40	40	40
5.Substitution goods quality in consumer view	10	40	40	40	40
6.Degree of effecting to manufacturers/entrepreneurs/stake-holders	10	40	40	30	30
Total	100	400	310	390	310
			77.5	97.5	77.5

Our study tested the criteria by prioritizing the unsafe product in 10 provinces and 3 districts which are the area that provincial public health pharmacist and community hospital pharmacist are in the project and are keyperson in using criteria for priority of unsafe product to implement in responsible area.

Testing results of using prioritize unsafe product in designated area in 10 provinces and 3 districts provided the result that the developed criteria for prioritize unsafe product can be used for screening the significant problem of unsafe product for operating consumer protection and every area can issue priority of unsafe product. For example, results of prioritize unsafe product in Lampoon Province are as follows; 1st: contaminated fruits and vegetables, 2nd: cooked oil for frying, 3rd: supplementary foods that exaggerate advertise. And results of prioritize unsafe product in PannaNikom District, SakonNakorn Province are as follows; 1st: contaminated cantaloup, 2nd: formaldehyde animal internal organs (food) and 3rd: cosmetic contain prohibited substances as shown in table 4.

Table 4. Three first results of prioritize unsafe products, classified by area.

Area name	Results of prioritize Unsafe Products		
	1st	2nd	3rd
Lampoon	Contaminated fruits and vegetables	Cooked oil	Supplementary foods that exaggerate advertise
Lampang	Illegally contain steroids in traditional medicine	Supplementary foods, Household medicine, Traditional medicine that exaggerate advertise	Contaminated fruits and vegetables
Kon-Kaen	Contaminated vegetables	Foam products as food container	Weight loss product as food and drugs that contains Sibutramine
Roi-Ed	Contaminated chili	Formaldehyde animal internal organs (food)	Steroid in poly-pharmacy and liquid eczema drugs
Yasotorn	Contaminated fruits and vegetables	Herbicide	Herbal drink with ginseng
Samutsongkram	Insecticide and chemical contaminated food	Illegal cosmetics. (Acne, Blemish, Whitening cream)	Cannot access essential medicines
Samutsakorn	Insecticide for agriculture	Cooked oil	Drinking water in closed container
Lopburi	Poly-pharmacy	Weight loss coffee	Blemish cosmetics
Saraburi	Cooked oil	Traditional medicine contain steroid	Herbal drink that exaggerate advertise

Area name	Results of prioritize Unsafe Products		
	1st	2nd	3rd
Trang	Herbal medicine contain steroid	Cosmetic contain prohibited substances	Weight loss coffee contain Sibutramine
Wiengsa District., Nan Province	Medicine in grocery store	Herbicide and Insecticide	Cooked oil
Soongnern District., Nakornratchasima Province.	Colored soft drink in closed container	Herbal medicine contain steroid	Whitening cosmetics
Pannanikom District., Sakolnakorn Province	Contaminated cantaloup	Formaldehyde animal internal organs (food)	Cosmetic contain prohibited substances

Discussion

Previously, there are no criteria for screening unsafe product to consumer protection management.The decision on risk management usually comes from individual interest without systemic risk assessment.The action on immediate react on product risk management might be suitable for hot issues which attract media, but may not provide sustainable product safety protection. Presently, there are many and various types of unsafe products available in the market. So there is a lot of burden for consumer product risk management under limited resources. The developed criteria for prioritize unsafe product may help providing consumer protection management effectively and efficiently since they provide the systematic approach, based on evidence and involved all stakeholders.

Conclusion

The developed prioritize on unsafe product can be used as a tool for screening significant problem of unsafe product for operating consumer protection. By applying this issue priority of unsafe product, the process can be systematically operated in issue prioritization that is most significant and widely effect to consumer or get high effect on heath in consumer protection system. Participation of related sectors on delivering the problem, screening and prioritizing unsafe product is an essential element on estimation of probability of policy implementation based on the conclusion of consolidated problem-solving. It should be noted that at present there are the limitation based on technical database of unsafe product to support and provide criteria for some specific products, but this can be improved by establishing the reference data base available nationwide.

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