Promotion of the Right to Clean Air: The Role of Public Organization in Communicating Health Messages to the Public Sector

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Abstract

Human rights are a prerequisite for human beings to enjoy harmonious coexistence; therefore, this is regarded as the government's important responsibility towards the people who are citizens of the state. Additionally, the right to clean air is crucial for every human being because it is related to the right to life, reflecting the value of existence. Consequently, apart from the introduction of various compulsory measures based on legal rules and regulations to address dust or pollution problems that affect the human respiratory system, the voluntary mechanism is also key to promoting mutual benefits, especially in light of environmental issues based on community collaboration.

The purpose of this research was to highlight the necessity of communication with the public sector regarding the right to clean air in order to raise awareness among state citizens about self-protection against and vigilance regarding personal health issues. It was found that environmental issue communication needed to convey strong and clear messages in order to establish relationships with relevant stakeholders in every sector, ensuring the usefulness, acceptability, understandability, and adoption of final products. The government should therefore introduce legal measures requiring local organizations to publicize the "Urban Health Initiative," a guideline recommended by the World Health Organization (WHO) as part of the roadmap for implementing updates to the WHO Air Quality Guidelines. Local government entities or organizations should also be established and assigned duties to regulate the right to clean air in their respective areas, monitoring death and morbidity rates caused by air pollution. This would reflect the benefits to be gained from communication and the joint introduction of good plans towards a healthy city, which aligns with the promotion of the right to breathe clean air.

In summary, the necessary measures concerning clean air in Thailand are reviewed in comparison with legal measures at the level of international collaboration. Additionally, establishing a specialized organization or agency to facilitate the rapid and accurate exchange of health information related to air pollution will result in timely collaboration between the government and civil society, covering all sectors. This will help promote the right to breathe clean air and contribute to a sustainable solution for air pollution problems.

Keywords: *Right to Clean Air, Public Organization, Urban Health Initiative, Health Message*

1. Introduction

Public communication is essential for promoting the right to clean air. In the case of communicating with the Thai public sector, the Department of Disease Control has provided advice on preventing and managing PM2.5-related health issues to two groups: the general public and vulnerable populations, including young children, students, the elderly, pregnant women, and people with congenital diseases, especially lung or heart diseases. The latter group requires special attention and is advised to wear dust masks and avoid high-risk areas. Providing accurate and clear information on health risks will raise awareness among the public about the air quality in their area and how to protect their health effectively. Communicating health information is therefore of utmost importance to the public. Health messaging in Europe can serve as a good example and model because it provides affected subpopulations with detailed information on possible symptoms and ways to reduce pollution exposure and health risks. The effectiveness of health messaging will be assessed through follow-up research to maximize public health impacts.

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Consequently, this research revealed that, apart from the focus on updated and enforceable laws, other social measures supporting the legal ones should be introduced to enhance community participation for the benefit of environmental protection and the concrete solving of problems. The organizations or units within the local government entities that are in charge of regulating the right to clean air in their own areas should also be developed. This would be beneficial to the health of local people and to social stability in terms of quality co-living in the same environment.

2. Objectives

1. To provide knowledge of the air pollution emission reduction policy, which requires clarity and emphasizes air quality management plans and communications with the public sector.

2. To propose a health problem-solving model that promotes the formulation of policies on the right to clean air.

3. To develop a monitoring mechanism to measure the results of City Initiative, which is the recommended guideline for proposing new legislation to promote the right to breathe good air.

3. Materials and Methods

This research employed a documentary research methodology; hence, the data were collected from diverse legal and factual academic sources through digital systems (such as legal textbooks, articles, and journals from Thai, foreign, and international sources). In this context, legal recommendations from the World Health Organization (WHO) and the European Union (EU) were analyzed to propose guidelines for communicating health messages that promote the right to clean air and prioritize preventing public health impacts.

4. Results

4.1 Communication with the Thai Public Sector to Promote the Right to Clean Air and Prevent Health Impacts

To prevent health impacts for various groups of people, the Bureau of Occupational and Environmental Diseases under the Department of Disease Control has provided advice on the prevention and care of health from fine particulate matter (PM2.5) (Department of Disease Control, 2022).

The details can be summarized as follows:

4.1.1 Communicating advice to the general public

The Disease Control Department has recommended that Thai people be able to monitor air quality situations through the Pollution Control Department's Air4thai website and application or read relevant news from various channels, such as the "Healthy People Who Are Aware of PM2.5" webpage. If the situation is classified as orange or red level criteria, outdoor activities should be avoided, or dust masks should be worn strictly when going outside. Additionally, individuals should observe any unusual symptoms, and in the case of experiencing cough, chest tightness, dizziness, nausea, vomiting, or other abnormal physical symptoms, they should consult a doctor immediately.

4.1.2 Communicating Recommendations for the Caring of Vulnerable People

The Department of Disease Control has provided special advice for vulnerable people, who, apart from strictly monitoring the PM2.5 situation, are recommended certain self-protection methods as follows:

1) Young children should avoid outdoor activities when the level of particulate matter is high.

2) Students should avoid activities outside the classroom as much as possible when the level of particulate matter is high. Student leaders should also play a role in organizing activities (such as public

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relations boards and knowledge corners, etc.) to communicate to fellow students how to protect themselves from particulate matter.

3) Elderly people should prepare necessary medicines and equipment as well as refrain from activities that cause more particulate matter, such as lighting incense sticks and burning joss papers.

4) People with chronic diseases should wear dust masks (N95) if they need to go outside the house. In case of experiencing any unusual symptoms, they must consult a doctor immediately.

5) Pregnant women should avoid outdoor activities. If it is necessary to go outside, they should wear dust masks (N95).

6) Street vendors should reduce any activities that create particulate matter. In the case of grilling stalls, they should use a smokeless stove or avoid using firewood or charcoal.

7) Street sweepers, traffic police, motorcycle and tricycle drivers, and food delivery workers should wear dust masks (N95) if the particulate matter is at the red level (91 micrograms/cubic meter or more). After finishing work, they have to quickly change clothes and clean their bodies.

8) People who do outdoor exercises should change their time or area to do so when the particulate matter level exceeds the standard. They should absolutely avoid wearing N95 masks while doing the exercises.

4.2 The Role of Global Collaboration Mechanisms (the UN and WHO) in Communicating the Right to Clean Air Promotion and Health Impact Prevention to the Public

Almost every part of the world has been facing environmental challenges over the past several decades. It is urgent to work collaboratively to solve and reduce environmental problems, such as the loss of biodiversity, etc.

4.2.1 Joint BreatheLife Campaign (CCAC Secretariat, 2024)

Joint BreatheLife Campaign is a global collaboration campaign between the World Health Organization's Climate and Clean Air Coalition (CCAC), the United Nations Environment Programme (UNEP), and the World Bank. It aims to encourage people to protect their health and work together to shield the world from the effects of air pollution, as well as urge both local and national governments to commit to maintaining air quality within levels considered safe by the World Health Organization. This will not only halve the number of deaths caused by air pollution by 2030 but also decrease the rate of climate change (CCAC Secretariat, 2016).

4.2.2 WHO Urban Health Initiative (UHI) (WHO, 2024)

WHO Urban Health Initiative is a campaign that raises people's health awareness with a focus on healthy behavior promotion and the building of cities that promote and support good health for citizens. The steps according to the Model Process for Integrating Health into Policy-Making (WHO, 2024) can be described as follows:

1) The stakeholder map is prepared along with health effect information to devise urban planning policies that cover important issues such as air pollution, land use, transportation, and waste management. This is to identify possible gaps that should be improved.

2) The trainings are arranged for health actors at the policy, program, and service levels to enable them to participate in cross-sector policy-making processes.

3) The existing tools are applied in the assessment of health effects and of policy's economic impacts.

4) Alternative Scenarios and Policy Options Testes are evaluated, while city-level action plans, strategies, and roadmaps are developed.

5) Importance is given to the participation of all groups in communicating through various channels such as, the citywide #BreatheLife campaign, media training, outreach, and workshops on health and the economy. Emphasis is placed on staff who are able to give advice about various measures to patients and communities.

6) A monitoring mechanism is developed in order to measure the impacts of City Initiatives in the effort to manage policy impacts as well as urban risks and exposures. Health outcomes under the "WHO Urban Health Initiative" are summarized so that deaths and illnesses caused by air pollution are reduced. It

also aims to enhance the health sector's awareness of the benefits to be gained from building a healthy urban environment.

7) Air Quality Guidelines (AQG) are determined to identify who will be most affected by exposure to air pollution. This will lead to the most relevant and effective targeting of communications.

However, WHO may use its convening power to create knowledge exchange opportunities for various sectors, including the public sector, civil society, and academics, so that they have the most effective collaboration (WHO, 2024).

4.3 The Role of EU Local Authorities in Communicating with the Public Sector to Promote the Right to Clean Air and Prevent Adverse Health Effects

Despite the fact that resource use in Europe continues to increase to the point of environmental degradation, there are, at the same time, policy-based measures for natural protection. However, more than 10% of annual premature deaths in the EU are related to environmental pollution (EEA, 2023).

4.3.1 Examples of Anti-Pollution Law Enforcement

Measures Against Air Pollution: Most of the measures currently proposed by the Commission are based on three main pillars: 1. air quality standards; 2. national greenhouse gas emissions reduction targets; and 3. emissions standards for major pollution sources such as vehicles and ships, as well as energy and industry (EU, 2018).

In this regard, to address air pollution emissions from traffic, the Commission will further strengthen its work with national, regional, and local authorities on an integrated approach in light of the Urban Vehicle Access Regulations, which fall under the "EU Urban Agenda."

Moreover, the Commission is taking actions to address two main pollutants that impact health: nitrogen dioxide, which significantly and continuously exceeds the specified value as a result of road traffic and industry, and particulate matter, mostly found in emissions from industry, home heating, traffic, and agriculture. Despite the continued high levels of particulate matter (PM10), it must meet the limits required by the EU Legislation on Ambient Air Quality (Directive 2008/50/EC).

The Air Quality Ministerial Summit was organized by Commissioner Vella on January 30, 2018, in an effort to find solutions to the serious air pollution problem in nine Member States within agreed limits as soon as possible. This is performed according to European Union laws, so that the actions are carried out correctly. The Commission will continue to closely monitor them to effectively and rapidly solve the situations.

4.3.2 Importance of Quality Health Messaging

Although air pollutant emissions in the European Union have decreased significantly over the past two decades, the concentration of air pollution remains high. According to the European Environment Agency (EEA), it was found that, in 2020, 96% of city residents were exposed to dangerous concentrations of particulate matter with an aerodynamic diameter equal to or less than 2.5 μm (PM2.5). Therefore, for people to be aware of the air quality in their own area and to have clear information about the health risks they are facing, the communication of health information is extremely necessary.

Health messages are the best example of providing information about the affected subpopulation, along with the provision of explanation on symptoms and specific recommendations to reduce exposure to pollution and health risks. Health messages are also helpful in providing more detailed guidance to enable potential behavior changes.

A good example of a health message can be found in the WHO European Region. This includes information provided for the affected subpopulation, detailing various possible symptoms and specific recommendations on how to reduce exposure to pollution and health risks. The effectiveness of health messages should also be evaluated through follow-up research studies. The important observations were as follows:

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1. The reporting of air quality risks to the public throughout Europe varies, depending on the activities, environment, and attitudes of people in the community.

2. Most member countries in the European region prefer to use country-specific indices instead of the European Air Quality Index (EAQI).

3. It is imperative to monitor the air quality index using local health data to ensure that the index effectively reflects health risks.

4. The risk communication methods must be flexible enough because there are cultural differences related to outdoor activities and health risks.

Indices used in almost every country are particulate matter (PM), nitrogen dioxide (NO2), and ozone (O3), while some nations also include carbon dioxide (CO), sulfur dioxide (SO2), or other pollutants. These indices are commonly examined according to precise pollutant cut-points (or Limits) depending on the European Environment Agency's European Air Quality Index (EEA EAQI) or the World Health Organization's guidelines or established regulatory limits.

However, the European Environment Agency employs an online geographic information system (Internet, application, or smartphone) to display air quality conditions across Europe. This is complemented by the European Environment Agency's European Air Quality Index. Additionally, many countries offer information on forecasted pollution values alongside measured pollutant concentrations (Cromar K, Lazrak N., 2023).

4.3.3 Examples of Messages about Pollutions Affecting People's Behavior

Health messages communicate the dangers of air pollution, which impact individuals' behaviors and contribute to deteriorating air quality. These messages also encourage people to become more involved in air quality policy initiatives (EU, 2017). This can be further explained as follows.

4.3.3.1 Messages on Air pollutions and Health

Air pollution causes chronic diseases that affect many people and have certain impacts on fetuses as well. The communication of air quality messages often aims to gain support from the public and promote behavioral changes. "Health Messages" will raise awareness among people of the concrete and tangible effects of air pollution and the importance of self-protection.

(Example of communication with negative messages)

- Amsterdam: *"Smog/air pollutions are harmful to health."*
- Katowice: *"Air pollution may shorten your life."*
- Stockholm: *"Please be careful of bad weather."*
(Example of communication with positive messages)
- Siewierz, Poland, reinforces the importance of clean air with the message: *"If you love children, don't burn trash."*
- Suchań: *"People will live better with clean air."*

4.3.3.2 Connecting Health Messages with Advice to the Public

Local government influences the success of conveying health messages to provide advice on actions people should take in situations of air pollution, such as

- Stuttgart: *"Don't spend too much time outdoors."*
- In Helsinki's metropolitan area: *"Chimney sweepers visit homes with fireplaces every year and hand out leaflets on how to burn wood without creating too much smoke."* Moreover, advice on how to keep firewood dry and employ clean-burning techniques is available on the websites (HSY, 2024).

Moreover, many cities have highlighted the positive effects and benefits of publicizing air quality management measures.

- In Utrecht and Belgium, support for clean urban transportation is evident, with numerous cyclists participating in cycling campaigns throughout the city center daily. This aligns with Utrecht's mobility policy, aimed at ensuring that every citizen enjoys healthy air quality.
- Milan implements a congestion charge in the city center (Area C) and maintains a website for monitoring traffic and greenhouse gas emission data. The effectiveness of the "Campaign of Carbon Black" is evaluated, revealing significant differences between areas within and outside the congestion charge zone. The health impacts of air quality are presented at public meetings (AMAT, 2024).

It can be asserted that the diverse information mentioned above can raise awareness among citizens and city users about the benefits of traffic restriction measures on air quality. This awareness has the potential to influence the behavior of community members towards enhancing urban air quality, thus promoting the right to clean air for city residents, ultimately contributing to better health and well-being.

4.4 Analyzing the Role of Thai and Foreign Government Organizations in Communicating the Promotion of the Right to Clean Air and Prevention of Health Impacts to the Public Sector

4.4.1 Communicating Health Messages in Thailand

Public communication is essential for promoting the right to clean air and preventing adverse health effects. In the case of communicating with the Thai public sector, the Department of Disease Control has provided advice on health prevention and care regarding particulate matter (PM 2.5). The details are summarized in the following two parts:

4.4.1.1 Communication of advice to the general public

The Disease Control Department has recommended that people follow air quality situations via the Pollution Control Department's Air4thai website and application or read news on various channels such as, the "Healthy People Who Are Aware of PM2.5" webpage. When conditions meet the orange and red level standards, it is best to stay indoors or use a dust mask whenever going outside. Individuals should also monitor for any abnormalities and contact a doctor immediately if experiencing coughing, tightness in the chest, nausea, vomiting, dizziness, or other unusual physical symptoms.

4.4.1.2 Communicating recommendations for caring for vulnerable people

The Department of Disease Control has provided detailed advice for vulnerable individuals at risk, including young children, students, the elderly, pregnant women, people with congenital diseases—especially lung disease or heart disease—and those with a high chance of exposure to particulate matter, such as outdoor workers (roadside vendors, street sweepers, traffic police, motorcycle riders, tricycle drivers, and food-delivery workers), as well as those engaging in outdoor exercise activities. These groups must pay special attention, such as avoiding outdoor activities when particulate matter (PM 2.5) reaches levels that begin to pose health risks (this level varies depending on the person's physical condition and underlying diseases). They should refrain from outdoor activities as much as possible and ensure they have the necessary medicines and equipment prepared. Moreover, activities that generate particulate matter, such as lighting incense sticks and burning joss papers, should be avoided, and doors and windows of homes must be closed, with fans turned on to create air circulation. Continuous monitoring of the particulate matter (PM 2.5) situation is necessary, with strict adherence to wearing dust masks and avoidance of high-risk areas.

4.4.2. Application of Legal Advice Related to EU Health Messages

The individuals must be aware of the air quality in their area and have accurate information about the health risks they are facing so that they can correctly protect their health. Therefore, the communication of health information is extremely necessary.

The ideal health messages in the European region must incorporate the following crucial considerations:

1) Air quality risks vary in each area depending on the activities, environment, and attitudes of people in the community.

2) Monitoring the air quality index using local health data is essential to ensure that the index value effectively reflects health risks.

3) Risk communication methods must be flexible enough to account for differences in culture, beliefs, and the popularity of outdoor activities and health risks, which may vary according to the geography of the locality.

The particulate matter (PM), nitrogen dioxide (NO2), and ozone (O3) serve as indices in nearly every country, with some countries also incorporating carbon dioxide (CO), sulfur dioxide (SO2), or other pollutants. However, optimal utilization involves employing an online geographic information system (e.g., Europe-wide air quality indicators) alongside local data availability. This consideration is crucial when formulating plans or policies to ensure alignment with real-world conditions.

4.4.3 Applying WHO Legal Advice to Promote the Right to Clean Air and Prevent Adverse Health Effects

Air quality guidelines are necessary for formulating measures and policies that adhere to the World Health Organization's guidelines. By integrating health information related to air quality, policymakers and end-users will have the evidence they need to make decisions. This is further explained below.

- Application of health information by officials

Health risk assessment is an important tool for agencies, especially when evaluations are conducted by officials who are familiar with the people in the area. This approach is considered the most accurate policy choice as it is closely tied to the root causes of problems.

- Application of health information by technical experts and decision-makers

Technical experts and decision makers can provide insights into the implications of regulations on health impacts. This is valuable information for cost-effectiveness and cost-benefit analysis, as well as for guiding the formulation of air quality standards to ensure the protection of people's health within the community.

- Application of health information by civil society, patients, and related groups.

Civil society, patients, and other support groups play an important role in raising awareness of public protection, including for vulnerable groups such as children, from exposure to air pollution. Appropriate risk communication and campaigns must be carried out, presenting scientific evidence on the health effects of air pollution in a straightforward manner.

- Application of health information by health/environmental impact assessment practitioners

Important information from practitioners highlights the relationship among responses to insights into expected health effects, which can promote the introduction of various future scenarios. This results in enhanced awareness and consistency with important public health issues at present.

- Application of health information by researchers and academics

Researchers and academics become aware of critical data gaps through research aimed at protecting people from air pollution. This contributes to better future outcomes.

However, capacity building for communicating health information may vary between countries, including:

- Planning and operating air pollution measurement systems

- Public access to data

- Policy formulation and introduction of regulations and standards regarding air quality

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- Human resources with expertise and specialized training
- Implementation of universal health coverage and cross-sectoral collaboration
- Establishing different air pollution measurement systems in various areas

In addition, the requirements for planning and the strengthening of national implementation capacity need to be assessed. Currently, air pollution is recognized as a significant and escalating environmental and public health concern.

Advancements in related technologies, such as satellite remote sensing, global chemical transport models, land-use regression models, high-resolution dispersion models, and surface measurements, play a pivotal role in developing pollution management plans and compiling public information to assess the population's exposure to air pollution. Understanding past and present health impacts will influence future predictions. Therefore, air quality management must appropriately consider these factors.

5. Conclusion

The communication to citizens regarding their awareness of the right to breathe clean air is crucial, particularly in highlighting the imminent threat to human life and the significant health impacts resulting from "the air that we breathe daily." Collaboration across all sectors is urgently needed. Establishing a central organization such as the "Anti-Pollution Unit" (APU), for instance, to address air pollution issues on an ad hoc basis could be a viable option. This organization could oversee air pollution control in the area and communicate with the public to raise awareness about self-protection from air pollution, as outlined below:

(1) Air pollution monitoring and immediate notification are made available to the public, such as through communication via the community's broadcast tower or the local market's announcement system, emphasizing convenient and comprehensive public access in line with their activities in the respective area.

(2) Complaints about air pollution are collected, and the root cause and sources of air pollution in the area are identified and surveyed.

(3) The focus of communicating health messages to the public is placed on accuracy and clarity, achieved through reliable government applications and collaboration requests from the private sector to facilitate direct communication in important venues such as department stores, flea markets, major tourist attractions, and popular check-in points.

However, public-private collaboration is central to promoting the right to breathe clean air, with an emphasis on rapid implementation and ensuring genuine public access. This will encourage people to be cautious about self-protection and adequately prepare to reduce health impacts as much as possible.

The recommended guidelines for disseminating air pollution and health messages to Thais must give importance to the recipients of information. There are mechanisms to monitor the success of communicating those health messages in a transparent and verifiable manner.

The successful dissemination and communication of air quality aim to apply results to relevant policies at institutional, communal, national, and international levels. The systems and procedures may need to be changed to achieve the ultimate result of better human health. The inclusion of stakeholders from all sectors is considered valuable, especially in the context of low-income people who lack protective equipment for their health and suffer from illnesses caused by air pollution.

However, air pollution emission reduction policies require clarity and planning in air quality management within the context of each area. That is why certain policies that may be effective and contribute to the improved health of people in one area may not work in another. Hence, understanding specific situations such as pollution sources and the characteristics of the population exposed to pollution is crucial for communication with the public, selecting effective health message formats, developing effective risk management policies and strategies, and making decisions. Moreover, it is also part of joint decision-making with other sectors to draft important laws that cover the context of environment, transportation, land planning,

and housing management. This will eventually contribute to the sustainability of the energy, industrial, and agricultural sectors at national, regional, and international levels.

6. Acknowledgements

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