Application and Developmental Strategies for Community-Based Injury Prevention Programs of the International Safe Communities Movement in Korea

Bae, Jeongyee1 · Cho, Joonpi2 · Cho, Seong-il3 · Kwak, Minyeong4 · Lee, Taehyen5 · Bae, Christina Aram6

1Department of Nursing, Inje University, Busan
2Department of Emergency Medicine, Medical School, Aju University, Suwon
3Department of Rehabilitation Science, Graduate School, Inje University, Busan
4Department of Nursing, Graduate School, Inje University, Busan
5Department of Molecular Biology, Busan National University, Busan
6Department of English Language and Literature, Seoul National University, Seoul, Korea

Purpose: Safety of humans is an important factor that affects health overall, and injuries are one of the major public-health problems in the world. The purposes of this study were to describe the International safe Community movement which contributes to the injury prevention and safety promotion all over the world, and to identify out the application and developmental strategies for Korea. Methods: A review was done of previous research, reviews, and reports on the history, concepts, basic principles, and recommendations for actions of the Safe Community. Results: For this study, the application strategies of the International Safe Community movement in Korea were examined to deduce the strengths of the safe Community program. Community-based injury prevention work according to the International Safe Community model is a successful and cost-effective way of reducing injuries in the community. Conclusion: Through the International Safe Community program, communities are able to realize a healthy community and achieve improved quality of lives for the people, which is the ultimate objective of the Safe Community model. In addition, it will contribute to the economic vitalization and gain through energy and enhancement of productivity of people.

Key words: Safety; Accident prevention; Injury; Community health; Government programs

INTRODUCTION

Injuries are one of major public-health problems in the world, and each year—in every country—injury is the "Number One” cause of death among children and young adults [1–3]. Injuries are the most common cause of death, a leading cause of disability and years of life lost, and a major contributor to health care costs. In the world, about four million people die every year due to injuries, and the human costs of accidental injuries in the form of suffering, grief and disability are devastating and immeasurable [1].

Analysis of major accidents in industry resulted in a shift in regulatory and research focus from individual factors towards organizational factors such as safety culture [4]. Despite the size of the problem, most nations do not yet recognize injury prevention as a priority goal. Politicians and decision-makers must be made aware of the catastrophic consequences of injuries, and also of methods to prevent them. Because health and safety are fundamental rights of human beings, safety is also a prerequisite to the maintenance and
Improvement of health and welfare of a population. It is a fundamental need of human beings. Therefore, all nations must have injury prevention and safety promotion established as a priority goal.

Injuries disproportionately affect socially and economically disadvantaged groups. Equal right to health and safety a fundamental premise of The World Health Organization's (WHO's) health for all strategy and also the WHO global program on accident prevention and injury control, can be achieved only by reducing injury hazards and by reducing the differences in accident and injury rates between groups at different social levels [5]. World Health Organization's call for a network of International Safe Communities has an overall vision of providing secure and sound habitats for the present human race and for future generations [6].

The WHO Safe Communities model is a community-based model designed to promote safety and work towards the prevention of injuries, suicide and natural disasters [7,8]. The Safe Communities approach recognizes the importance of context, both in relation to the risk of injury and its prevention [9,10]. International Safe Communities, representing a global activation of the public health logic, may be strengthened through theoretical, methodological and empirical support [11]. This approach embodies a multi-disciplinary and multi-sectorial engagement in injury control and promotes interventions across the full primary, secondary and tertiary prevention continuum.

With rapid economic growth, the Republic of Korea has not had safety as its priority policy. However, with many safety accidents such as the Sewol Ferry accident and the Sampoong Department Store collapse, there is no doubt that programs and policies to prevent accidents and promote safety are needed. Safety of humans is an important factor that affects health overall. Thus the purposes of this study are to describe the International safe Community movement which contributes to the injury prevention and safety promotion of the world, and to identify application and developmental strategies in Korea.

MAIN ISSUE

The international safe communities movement

1. History

The involvement of the health care community in injury prevention was limited until recently, when injuries came to be viewed as a public health problem. The International Safe Communities movement is based on systematical and continuous cooperation for safety promotion and injury prevention, and has been developed over the past 20 years by the World Health Organization (WHO). Health promotion as a concept began with the commitment of the World Health Organization [12] to the goals of health for all in 1977. It was followed by the Declaration of Alma Ata on primary health care in 1978. During this conference, the commitment to community participation and inter-sectoral action was also incorporated. At the first international conference on health promotion in Ottawa [13] five principal areas for health promotion action were outlined: building healthy public policy, creating supportive environments, strengthening community action, developing personal skills, and reorienting health services.

Based on this commitment from WHO, the concept of International Safe Communities was officially pronounced during the first world conference on accident and injury prevention in Stockholm, Sweden in 1989. This concept is based on the statement 'all human beings have equal rights to be healthy and enjoy a healthy life', and 'Safe Community' was defined as a community that performs safety promotion programs to realize the ideology of this statement [14].

2) Concept of the international safe communities

Safety is a state in which hazards and conditions leading to physical injury, psychological or material harm are controlled in order to preserve the health and well-being of individuals and the community. It is an essential resource for everyday life, needed by individuals and communities to realize their aspirations. Because health and safety are fundamental rights of human beings, safety is a prerequisite for the maintenance and improvement of the health and welfare of any population [15].

International Safe Communities are communities that perform structuralized programs for injury prevention and safety promotion of all people in the community. A Safe Community means a community continuously and actively trying to promote safety and reduce injury due to accidents, while not being perfectly free of accidents or injuries. International Safe Community Certifying Center has the following 7 indicators as designation standards and designates a community that matches these standards as an
International Safe Communities.

(a) An infrastructure based on partnership and collaborations, governed by a cross-sectional group that is responsible for safety promotion in their community.

(b) Long-term, sustainable programs covering both genders, all ages, environments and situations.

(c) Programs that target high-risk groups and environments, and programs that promote safety.

(d) Programs that are based on available evidence.

(e) Programs that document the frequency and causes of injuries.

(f) Evaluation measures to assess their programs, processes and the effects of change.

(g) Ongoing participation in national and International Safe Community networks.

3) Basic principles of the safe communities

International Safe Community Certifying Center proposed equity, community participation, and national and international participation as the basic principles of the Safe Communities [14,15].

(a) Equity

All human beings have an equal right to health and safety. This principle of social policy is the fundamental premise of the World Health Organization’s health for all strategy and for the WHO global program on accident prevention and injury control. Safety for all can be achieved by reducing injury hazards and by reducing the differences in accidents and injury rates among socioeconomic groups. Politicians and decision-makers at all government levels are challenged to ensure that all people have an equal opportunity to live and work in safe communities.

Inequality in the safety status of an individual in developing and developed countries is of concern to all countries. National leaders must foster international collaboration to find solutions to this global problem. It is also fundamental to the International Safe Community Certifying Center that each country has a responsibility to ensure that exported products and technologies conform to international safety standards.

(b) Community participation

Some communities in developed and developing countries have begun community actions which have led to safe communities. The International Safe Community Certifying Center believes, therefore, that research and demonstration projects for injury prevention and control must include community-level programs. These demonstration projects will reveal how best to achieve safe communities.

To develop safe communities, local situations, unique resources, and the important cultural and socioeconomic determinants of injury must be understood and taken into account. These and other factors should be identified through intersectoral collaboration of individuals and organizations.

People have the right, and some would say the duty, to participate in planning and implementing their community’s safety program.

(c) National and international participation

As part of its national health plan, each government should formulate a national policy and a plan of action to create and sustain safe communities. All national health authorities urgently need to develop national safety goals and plans to achieve these goals. The International Safe Community Certifying Center promotes the concept that good plans depend on the cooperation and participation of many sectors. Countries should cooperate with each other to ensure the development of safe communities. Information about the experiences of safe communities in one country benefits other countries.

4) Recommendations for action of safe community movement

(a) Formulate public policy for safety

Governments need to invest greater human and fiscal resources to promote safety and to improve citizens’ health. A safe life is a basic right; a safe life leads to a longer, more productive life, and decreased costs. All nations should adopt a general policy for safety, which may include the complementary approaches of legislation, fiscal measures, and organizational change. A national program for accident and injury prevention should provide guidelines to achieve safe communities and should foster intersectoral collaboration at national and community levels.

Improved public safety requires first that the identification of obstacles to safety and to the adoption of safety policies be identified. Next, methods to remove the obstacles must be developed. Policy makes and individuals must learn that choosing
(b) Create supportive environment

People live and work in environments that can pose unnecessary risks for accidents and injury. People use products that can be unnecessarily and often unexpectedly hazardous. As environmental and product hazards are often similar in different countries, an international system for sharing information is urgently needed. People who develop efforts to safeguard humans from the injurious effects of mechanical, chemical and electrical energy must recognize that people like extremely diverse environments because this diversity enriches their lives.

International Safe Community Certifying Center recommends that local, national and international bodies establish and strengthen networks of researchers, training personnel, and program managers for accident and injury prevention. Members of such networks can analyze and implement public safety policies. They can also exchange of experiences at local, national and international levels.

(c) Strengthen community action

In safety promotion programs, community–partnership interventions and research, process evaluation play a vital role [16]. Accident and injury prevention requires coordinated action by many groups. Safety is the responsibility of governments, health, safety agencies, social and economic authorities, non-governmental and voluntary organizations, industry and the media. People in all walks of life are involved in safety as individuals and as members of families and communities.

Community efforts must be supported by other levels of government with technical advice, training, examples of materials, financial assistance, and evaluation. Care must be taken, however, to ensure that a community program is designed by community members, responds to community needs and uses community resources.

(d) Broaden public services

A safe community involves not only the health and safety sector, but also many other sectors, including agriculture, industry, education, housing, sports and leisure, public works, and communications. These sectors must coordinate their efforts to achieve optimum results.

The health sector and safety professionals have a crucial role in collecting and disseminating information on injured people, injury patterns, the causes of injuries, and the most hazardous situations. Such information provides local action groups with sufficient material to focus their work. Health personnel can participate in local community health education and safety promotion efforts.

The overall effectiveness of a program can be measured through outcome evaluation. Within the framework of community-based and multisectorial accident and injury programs, methods to improve the evaluation of injury prevention measures are necessary.

5) Current safe community designation

The International Safe Community Certifying Center in Stockholm, Sweden has responsibility for the International Safe Community designation. After the first International Safe Community designation in Linköping, Sweden in 1989, there have been 349 communities designated from 29 countries as of August 2015. The regional organizations, especially the Asian and European networks, embrace more than half of the designated communities [17].

As there are increasing disasters and safety accidents all around the world, injury prevention and safety promotion are considered one of the top priorities of national policies, thus resulting in many communities starting International Safe Communities programs.

As of August 2015, there were 10 communities designated as International Safe Communities in Korea. Suwon, Gyeonggi-do started the Safe Community program in 1999 and was designated in 2002 as the first Korean and Asian community, and 63rd in the world. Afterwards, Jeju special self-governing province (2007), Songpa-gu in Seoul (2009), Wonju (2009), Cheonnan (2009), Gangbuk-gu in Seoul (2013), Gwacheon (2013), Samscheon (2014), Changwon (2014) and Busan metropolitan city (2014) were designated as International Safe Communities. There are 11 communities in preparation for International Safe Community designation including Nam-gu in Ulsan metropolitan city, Gwangju metropolitan city, Gumi, Sejong, Suncheon, Asan, Geochang, Youngwol, Gwangju in Gyeonggi-do, Pyongtaek and Jeonju, and there will be more to come.
2. Strengths of international safe community program

1) Evidence-based program in safety promotion and injury prevention

The idea of an evidence-based safety promotion is based on the closeness between the concepts of injury prevention and safety promotion. Evidence-based safety promotion, the way it has been documented so far, is always related to a defined outcome. We have not been able to identify any studies of scientific character where the outcome is a feeling of safety among individuals or populations. Most outcomes are defined as injuries or lack of injuries or change of injury incidence [1].

The purpose of using the evidence-based safety promotion and injury prevention is to take the latest evidence from research and guide the intervention to achieve the best possible outcomes for safety promotion. It has been proven that integration of evidence-based practice has a lot of benefits in health.

One of the advantages of implementing the evidence-based practice by health professionals is that it results in higher quality of care that leads to improved outcomes, as evidence-based practice incorporates the latest research evidence and makes it available to program providers. Because of these benefits, International Safe Community Certifying Center also added indicator 4. Programs that are based on the available evidence were included in the International Safe Communities designation indicators in November 2011, and they advise on achieving a scientific and evidence-based program for injury prevention and safety promotion.

2) Construction of injury surveillance system

Injury surveillance is widely recognized as a critical prerequisite for effective injury prevention, yet few studies have investigated its use by community-based injury prevention programmes [8]. Those involved in programs to prevent and control injuries and accidents must first identify and evaluate which groups are most vulnerable. Therefore, the health sector and safety professionals have a role in collecting and disseminating information on the people involved in the injuries, injury patterns, the causes of injuries, and the most hazardous situations. In order to plan and implement a customized injury prevention program which takes into account the characteristics of the community pursued by International Safe Community Certifying Center, it is essential to manage the injury surveillance system which can help us to accurately understand the current state of injury occurrences in the clients.

Because injuries happen in any context of any environment that surrounds the individual or the community, it is ideal to collect various data. Injuries are the results of the events and behaviors that have environmental, social and behavioral determinants. Therefore what we should consider in regards to the development of the injury prevention programs is not just the host factor, but also the environment factor to accompany the creation of the safe environments. Thus all of the social, cultural, economic, geographical and environmental factors of the communities should be considered, and all the physical, mental and behavioral data of each individual should also be collected.

Surveillance and analyses of injuries can be used to help priorities community prevention efforts [18]. Injury data also becomes an important factor in evaluating the Safe Community program. Normally, the evaluation criteria would be the objectives of the program, and by comparing the change in the injury data before and after the program, it is possible to evaluate the success rate of the program objectively and quantificationally. Through the evaluation of the Safe Community program, it will be able to provide the information which is a basis of the feedback process of the effectiveness evaluation, modification, and feedback of the injury prevention program.

3) Construction of community based infrastructure for safety promotion

In order to contribute to injury prevention and safety promotion to the entire world by expanding the Safe Community movement, a successful network of organization is an absolute necessity.

Cross sector collaboration means the linking or sharing of information, resources, activities, and capabilities by organizations in two or more sectors to achieve jointly an outcome that could not be achieved by organizations in one sector separately. In order to recognize and solve the injury problems that are vulnerable to community members of all ages and situations, it is necessary to understand that multiple sectors of a democratic society must collaborate to deal effectively and humanely with the challenges.

Collaboration partners build trust by sharing information and knowledge and demonstrating competency, good intentions, and follow-through; conversely, failure to follow through and unilater-
DISCUSSION

Application strategies of the international safe communities movement in Korea

Safety promotion may be distinguished by the shift away from focus on individual responsibility and towards multifaceted society or community wide interventions, which ensure that everyone is aware or involved [5]. The International Safe Communities movement recognizes that it is the people who not only live, learn, work and play in a community but also best understand their community’s specific problems, needs, assets and capacities. Their involvement and commitment are critical factors in identifying and mobilizing resources so as to create an effective, comprehensive and coordinated community-based action on unintentional and intentional injuries [19].

Recently, interest in safety from the Korean government has become very high. On March 2015, the Ministry of Public Safety and Security announced the “Safety Innovation Master Plan” as the creating safe Korea project, and emphasized the fact that in the near future, safety should be centered in the community (Figure 1). Because the International Safe Communities movement in Korea fits well with the core values and basis of the Safety Innovation Master Plan of the Ministry of Public Safety and Security, the continuous Safe Community Movement is a strategy for creating safety based in the community that the government is pursuing (Figure 2).

‘All human beings have equal rights to be healthy and safety’, which is the ideology of the International Safe Communities and also the manifesto of Stockholm, Sweden of 1989 corresponds to the core values of the Safety Innovation Master Plan of the Ministry of Public Safety and Security.

As well, the Ministry of Public Safety and Security announced that the paradigm for safety innovation should be changed to the following, which also fits well with the basic principles of the International Safe Communities movement.

The Ministry of Public Safety and Security announced 5 strategies and 100 tasks including strengthening the ability of the control tower, strengthening on-site response for expansion of safety culture in daily life, expansion of infrastructure for disaster safety prevention and creative safety control by sectors for the Safety Innovation Master Plan for the Creating Safe Korea Project. Fulfilling the 7 designation indicators of the International Safe Communities movement, will make it possible to carry out the National Safety Innovation Master Plan of the Korean government (Table 1).

Through the establishment and management of the injury surveillance system, the annually developed injury indicators will be important data which will help communities to develop and implement safety policies and injury prevention programs and estimate the financial burden of the process. By establishing measures for injury data collection, we will be able to identify injury problems of the community people and accurately analyze the high-risk factors.

Based on the developed injury indicators, we will be able to set priorities and seek for intervention evaluation to reduce the high-
Table 1. Strategies of the Safety Innovation Master Plan in Compliance with the International Safe Communities Designation Indicators

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Tasks</th>
<th>International safe communities designation indicator</th>
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<tbody>
<tr>
<td><strong>Strategy 1:</strong> Strengthen the ability of the control tower</td>
<td>Strengthen the ability of the control tower for on-site support</td>
<td>Indicator 1: An infrastructure based on partnership and collaborations, governed by a cross-sectional group that is responsible for safety promotion in their community</td>
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<td>Establish a disaster response standardized system applicable for all disasters</td>
<td>Indicator 2: Long-term, sustainable programs covering both genders, all ages, environments and situations</td>
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<td>Build an improvement system for general management of safety policies of each sector</td>
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<td>Set a standard and direction for safety policies</td>
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<td><strong>Strategy 2:</strong> Ability strengthening for on-site response</td>
<td>Strengthen ability and sense of responsibility for disaster response of the community</td>
<td>Indicator 1: An infrastructure based on partnership and collaborations, governed by a cross-sectional group that is responsible for safety promotion in their community</td>
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<td>Strengthen training and education of disaster prevention</td>
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<td>Strengthen rescue and response ability on land and sea</td>
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<td><strong>Strategy 3:</strong> Expansion of safety culture in daily life</td>
<td>Strengthen National Safety Education based on life-cycle</td>
<td>Indicator 2: Long-term, sustainable programs covering both genders, all ages, environments and situations</td>
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<td>Increase omnidirectional pan-national safety culture</td>
<td>Indicator 5: Programs that document the frequency and causes of injuries</td>
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<td>Create a public-private partnership governance with community involvement</td>
<td>Indicator 1: An infrastructure based on partnership and collaborations, governed by a cross-sectional group that is responsible for safety promotion in their community</td>
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<td>Strengthen safety welfare policies</td>
<td>Indicator 3: Programs that target high-risk groups and environments, and programs that promote safety for vulnerable groups</td>
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<td><strong>Strategy 4:</strong> Expansion of infrastructure for disaster safety prevention</td>
<td>Research and evaluation of disaster, strengthen reflux system</td>
<td>Indicator 6: Evaluation measures to assess their programs, processes and the effects of change</td>
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<td>Secure continuity of safety tasks through prevention</td>
<td>Indicator 4: Programs that are based on all available evidence</td>
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<td>Realization of scientific and effective disaster prevention</td>
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<td></td>
<td>Promote safety industry through new growth power</td>
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<td><strong>Strategy 5:</strong> Creative safety control by sectors</td>
<td>Sectors including school, energy, traffic, disaster, industrial complex and harmful chemical substances</td>
<td>Indicator 2: Long-term, sustainable programs covering both genders, all ages, environments and situations</td>
</tr>
</tbody>
</table>

Figure 2. Prosecution principle of the International Safe Communities movement in accordance with the safety innovation paradigm of the Korean government.
risk factors. The injury data according to life cycle, gender and cause will provide evidence for development of national safety education according to life cycle that the Ministry of Public Safety and Security advises.

CONCLUSIONS

Forthcoming endeavors

A safe life is a basic right and leads to a longer and more productive life. All nations must establish injury prevention as a priority goal and should adopt a general policy for safety, which may include the complementary approaches of legislation, fiscal measures and organizational change. Increased research investment and increased support for control programs are needed in virtually every country. In many countries, significant progress has been made in occupational and traffic safety. Hardly any country, however, has made significant progress in preventing other kinds of injuries. Greater advances in preventing all injuries can, we believe, be made by focusing on community programs and by public participation in those programs [14].

Few countries have established adequate policies and programs, and few have allocated sufficient resources to prevent accidents and injuries. Politicians and decision-makers in the health services and in other relevant sectors of society, such as education, justice, transportation, housing, labor, commerce, and social welfare, must be made aware of the catastrophic consequences of injuries. People working and living in their communities must learn that many injuries are preventable [14].

Kent Lindqvist [20] reported that community-based injury prevention work according to the International Safe Community model is a successful and cost-effective way of reducing injuries in the local community. For a successful Safe Community movement, each sector should participate democratically from planning and evaluation of the program. However, in Korea, because the history of democracy has not been long as in European countries, this kind of cultural situation has affected the Safe Community movement. Therefore at least until now, the government has had the leading responsibility in starting this program, and the 7 designation indicators are ideal guidelines for a successful launch of the program. Especially the first one "an infrastructure based on partnership and collaborations, governed by a cross-sectional group that is responsible for safety promotion in their community" and the seventh one "ongoing participation in national and international Safe Community networks" are important guidelines for the realization of democracy in the Safe Community movement of Asian countries.

Through the Safe Community program, it will be possible to realize a healthy community and achieve improved quality of the lives of people, which is the ultimate objective of the International Safe Community model. Through the establishment of a community infrastructure which prevents accidents of people and minimizes injuries, the socioeconomic burden and loss caused by accidents and injuries will be decreased. The program will also contribute to economic vitalization and gains through energy and enhancement of productivity of the people. In addition, the people’s confidence in the government will be increased by actively applying citizens’ safety needs to the administration through the promotion of evidence-based programs under agreements with local communities.

CONFLICTS OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, or publication of this article.

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