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## Improvement Plan for the SAFETY Management System of the KOREAN Martial Arts

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### Abstract

*This study intends to suggest ways to improve the safety management measures and the safety management system following the safety accidents and complex risk factors that may arise in the field of martial arts. In order to achieve the purpose of this study, the following research questions have been set.*

*First, what are the status and causes of the safety accidents in the martial arts?*

*Second, what are the ways to improve the safety management system of the martial arts?*

*In order to achieve the purpose of this study, we have reviewed articles, papers, and books related to the safety domestic and foreign as of 2017 in order to identify the current status and causes of the safety accidents in the martial arts and to suggest ways to improve the safety management system of the martial arts where a literature survey method was used, and the collected data were divided into the status of safety accidents, cause analysis and improvement measures, respectively.*

*Based on the above research method and the data analysis method, the following research conclusions were acquired.*

*First of all, the status and causes of safety accidents in the martial sports are analyzed as follows.*

*First, 55.9% of the martial artist population, which is more than half of the total, experienced a safety accident sustaining severe to minor injuries and experienced an average of 2.6 injuries per year.*

*Second, the most common injuries were pain (54.8%) and sprains (51.8%) while they were concentrated on the head and the upper body.*

*Third, the causes of safety accidents in martial arts activities were technical factors such as the lack of motor functionality and skills, psychological factors such as excessive exercise, lack of tension, and conceitedness, among others. In addition, physical causes such as the failure to repair the facility, such as collision with the opponent and falling, were among the main causes.*

*The improvement measures for the safety management system of the martial arts are as follows.*

*First, it is necessary to continuously improve the curriculum of the martial arts instructor certificate.*

*Second, the safety management system should be constructed through the placement of professional medical personnel related to the safety accidents along with the institutionalization of the emergency care system.*

*Third, it is necessary to strengthen the gymnasium establishment law and leader placement standards, and mandatory safety education for instructors should be provided to provide safety environment for trainees by enhancing the ability of martial arts leaders to deal with safety accidents.*

*Finally, the association of each martial art should systematize the mandatory safety training so that leader and trainee can improve the problems of environment and develop new program and safety education so that they can practice and compete in safe environments.*

**[Keywords]** *Martial Arts, Safety, Martial Art Safety Education, Safety Management System, Martial Art Safety Injury*

## 1. Introduction

Safety has emerged among the greatest concerns of the present time since the recent sinking of the vessel named “Sewolho.” To the point that 'safety is the future,' the society is paying more attention to safety than ever before[1]. Considering that the concept of safety is not only required for a particular class but is a necessity not only at a specific time but also a task that must be constantly raised from the birth of a human being to the end of his or her life, it must be an extremely normal and ideal phenomenon.

In particular, the incidence of safety accidents is very high compared to other sports, especially in the case of martial arts and physical training based on safety, during training and competition[2].

Despite the increasing awareness of safety and safety education, there is little research on safety management. Therefore, the purpose of this study is to analyze the current status and causes of safety accidents that may arise in the martial arts, and to suggest ways to improve the safety management system of the martial arts in order to implement safety management measures and the safety management system accordingly.

## 2. Background

### 2.1. Concept of safety and definition of martial art safety education

Generally speaking, safety refers to a state in which there is no danger or accident[3]. It means responding to and coping with physical and mental impairment in all potentially dangerous situations. In another sense, safety is defined as safety by reducing the risk of accidents by creating a physical environment that minimizes conditions, conditions, or potential hazards created by human behavior modification in various objects and environments, and it is also defined as the safety of the body by removing physical and mental impairments from unintentional accidents[4]. Kim & Park defined safety as being able to maintain one's healthy life by protect-

ing him or herself from various safety threatening factors[5]. Therefore, safety could be said to be the state of knowing how to reduce the damage by reducing the accident rate by preventing the risk of accident in advance, and by preparing measures against the accident. This can also be said to be the state of acquiring the dignity of individual human beings not only protecting themselves but ultimately respecting the lives of others.

As seen in the above, safety is an activity to achieve the basic desire to pursue happiness by pursuing the human life in its entirety, and is a wide range of activities to prevent accidents, to protect human beings from injury and to prevent loss of property[6].

Any kind of exercise requires muscular strength, power, and requires proper skills. In a martial art, if you cannot quickly satisfy the techniques with correct postures and actions, an accident can occur. Particularly, martial art sports such as Judo, Taekwondo, Aikido, and Kendo involve aggressive physical activities, which raises the issue of safety education that can cope with the injuries that may occur during training and even the risk of life[7].

The martial art safety education is an education to prevent safety accidents that may occur during the martial art training. Therefore, the existence of such martial safety education presupposes that safety accidents can occur frequently during the martial art training and that these safety accidents can be prevented thorough the safety education[8].

### 2.2. Safety management system for the martial art safety

Safety management system refers to activities that systematically combine and manage various fields related to the martial art safety for the purposes of operating a safe environment in a martial arts training center or stadium[9].

The safety management system stipulated under the individual laws of the martial arts is determined by the School Sports Promotion Act, the National Sports Promotion Act, and the Act on the Establishment and Use of

Sports Facilities. However, due to the lack of consumer protection devices, it may result in a higher incidence of safety accidents. Therefore, it is necessary to introduce a systematic system that takes preventive actions as a top priority and to apply them practically[10].

### **3. Results**

#### **3.1. Analysis of the status of safety accidents in the martial arts**

More than half of the martial population, 55.9%, have suffered from severe injuries with an average of 2.6 injuries per year[11]. The most common types of injury are pain (54.8%) and sprain (51.8%) concentrated on the head (67.6%) and the upper body (33.0%). More than 70% of the respondents said that the level of awareness of safety rules is normal, and the rate of experience in the safety education was also far low at 36.9%. 93.7% of them were discovered to be aware of the need for the safety education.

#### **3.2. Causes of safety accidents in the martial arts and management issue**

The causes of safety accidents in the martial arts vary widely, however, they are divided into the technical, psychological, and the physical.

First, a safety accident occurs due to a lack of skills and techniques as a technical cause. Because there are various threats in the martial arts such as beating, bending, knocking, banging, hitting, mutually colliding, and so the repetitive training to acquire highly skilled techniques faces the high incidence of injury. Therefore, only education can prevent the risk of safety accidents.

Second, excessive exercise as a psychological cause, lack of tension, and pride are the major causes of safety accidents. Humans are prone to accidents when the demands of the moment by the temporal physiological and psychological factors are greater than their abilities.

Third, a safety accident occurs due to a physical cause such as a collision with an opponent and a failure to fix the facility against events such as a fall. Especially, due to the

passive safety management of leaders and the lack of awareness of safety, the safety management of the martial arts is urgent to avoid facing legal sanctions[12].

#### **3.3. Improvement plan**

First, in order to improve the safety management system of the martial arts, it is necessary to continuously improve the maintenance education of the martial arts instructor certification. It is necessary to improve the safety response capability of the leaders by improving the qualification of them.

Second, the athletes of the martial arts are experiencing the majority of safety accident experiences under the gaming situation. Therefore, the safety management system should be constructed through the institutionalization of emergency medical system deployment and professional medical staff related to the safety accident of the martial arts.

Third, it is necessary to strengthen the gymnasium establishment law and instructor placement standards, and to provide safety environment for trainees by making the instructor safety education mandatory and by improving the trainees' response capability against safety accidents.

Finally, each association of martial art must ensure that leaders and trainees are able to improve their environment and develop new programs and train them so that they can practice and compete in safe environments every time.

### **4. Conclusion**

The purpose of this study is to analyze the issues and the improvement plan of the safety management system of the martial arts. The following conclusions were derived from this study.

First, more than half of the martial artists have experienced injuries, especially injuries to the head and the upper body.

Second, the cause of the safety accident of the martial arts was safety accidents due to technical, psychological and physical factors.

Third, it is necessary to improve the safety response capability of the martial artists by improving the qualification of the leaders as martial arts engender the higher risk of safety accidents. Through the institutionalization of professional medical staff and emergency care system related to safety accidents, it is necessary to establish a safety management system. Furthermore, strengthening the gymnasium establishment law and leader placement standards, while providing the safety education for the trainees through the mandatory safety training of the leaders must be required.

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