**ABSTRACT**

The Korean Medical Association opposes the illegal attempt to implement the physician assistant (PA) system in Korea. The exact meaning of ‘PA’ in Korea at present time is ‘Unlicensed Assistant (UA)’ since it is not legally established in our healthcare system. Thus, PA in Korea refers to unlawful, unqualified, auxiliary personnel for medical practitioners. There have been several issues with the illegal PA system in Korea facing medicosocial conflicts and crisis. Patients want to be diagnosed and treated by medically-educated, licensed and professionally trained physicians not PAs. In clinical settings, PAs deprive the training and educational opportunities of trainees such as interns and residents. Recently, there have been several attempts, by CEO or directors of major hospitals in Korea, to adopt and legalize this system without general consensus from medical professional associations and societies. Without such consensus, this illegal implementation of PA system will create new and additional very serious medical crises due to unlawful medical, educational, professional conflicts and safety issues in medical practice. Before considering the implementation of the PA system, there needs to be a convincing justification by solving the fundamental problems beforehand, such as the collapsed medical delivery system, protection and provision of optimal education program and training environment of trainees, burnout from excessive workloads of physicians with very low compensational system and poor conditions for working and education, etc.

**Current Status of PA System in Korea**

To understand the background of the introduction of the physician assistant (PA) system in Korea, it is necessary to understand the mandatory National Health Insurance Service (NHIS) which was introduced in 1977. In Korea’s single national health insurance system, doctors have been forced to work excessively due to low payment of the NHIS. It has been mostly maintained by overwork and sacrifice of healthcare professionals as well as trainees. With the recent enforcement of the Special Act on the Resident Training Environment (2019), it is no longer possible to demand overwork from residents. Naturally, the other low-cost healthcare workforce is required to replace some of the workloads of residents since the policy for maintaining the number of residents has not been changed. This is especially true for several medical fields, such as emergency medicine, surgeries and intensive care medicine, where
there have been dramatic decreases in the number of resident applicants, and thus extreme shortage for the working positions due to high demands of physical overloads. Moreover, there has not been a noticeable improvement of the medical delivery system, medical payment system, working environment of healthcare professionals including national insurance system, financial support for education and training for these trainees from the government in accordance with such changes. Rather, there have been more restrictions and regulations against physicians and hospitals to heavily criminalize the physicians even in minor violations of laws. All of these seem to be closely linked with the attempts to implement and legalize ‘Unlicensed Assistants (UAs)’ in the PA system.

The PA problem started to take off in earnest after the working hour restriction of residents. As medical service required diversified and professionalized, a dedicated nurse or professional nurse system, like PA system, was naturally created. The professional nurse system has been gradually increasing due to the lack of medical manpower and the logic of economic feasibility. In Korea, hospitals have been utilizing UAs, like PAs but without formal education and training program, as an alternative to overcome the shortage of residents in specific departments such as cardiac surgery, general surgery and obstetrics and gynecology. Hence the background of introducing PA in Korea is basically different from that of the officially introduced PA by government level with proper education requirements and certification programs such as the United States, United Kingdom, and Canada.

The work scope of physicians working at large training hospitals in Korea are much more committed to clinical workloads compared to other western countries owing to different medical delivery systems, insurance reimbursement programs, and very low fees for doctor’s services. Although it takes a longer time to train nurses than resident doctors, once trained, they have the advantage of being able to work together more closely and longer. Also, they tend to be more easily and readily available for clinical engagement with a more disciplined manner than resident doctors. Hospital managers are most likely unable to escape from such advantages as well as financial interests.

Although there is no legal PA with an official education and training system for PAs in Korea, it has illegally been operating in many training hospitals over a decade as ‘UAs’. Currently, there is no registry stipulating PAs and it is not known how many unqualified PAs are hired and working in hospitals. What is not measured cannot be managed properly. As mentioned above, there are no national levels of education or training programs in Korea. There is no proper, accredited, officially certified program by government. In a survey performed in 2012, more than 66.1% of PAs did not receive any prior education even in the working hospital or any refresh training even after starting their work. Also, there is no well-defined job description or work-scope. Most PAs experience the struggle with the difference between illegal and legal tasks in their works. Although there is a potential possibility of accidents due to the characteristics of medical care, it is not possible to systematically guarantee damage relief for medical accidents by PAs. The illegal PAs in Korea are found to have a low job satisfaction due to low level of rewards, risk of providing illegal practices, and experience of identity confusion. Lastly, the medical society and government have neglected or overlooked PA issues resulting in disastrous situation in patient safety and quality of care.

The introduction of the PAs system requires serious deliberation and close communications among medical experts, medical educators, trainees, and legislators. After all of these reach a sufficient level, it is then the preparation for planning and implementation will be ready to
initiate. However, there are many problems to be tackled and solved; whether PAs are really needed, how many are needed and how to train and educate if such PAs are needed, how to give qualifications, how to set the scope of work, and how to put safety issues in law, etc. There is also the issue of the government's role. A systematic analysis and countermeasures toward the demand for PAs by the government, who have ignored this issue, are essential and need to be prepared with the administrative and financial solutions. Without providing all answers for such necessary prerequisites it will not only violate the safety of medical care, but also will infringe the right to the health of people, if it is prematurely adopted. Thus, the introduction of the PA system in Korea should be approached very carefully.

Current Status of PA System in Western Countries

International education and training system for PA

The PA system is officially operated at a national level in the United Kingdom, United States, and Canada. In the UK, the PA system was introduced in 2005. Currently a two-year PA education program is in operation. In Canada, PAs were qualified as Clinical Assistants in 1999. In Germany, PAs have been active since 2005, but it is not with a nationally recognized qualification. The PA system operates legally in the United States. PAs perform 'mid-level duties' in their practice. PAs in the US are divided into advanced practice nurses (APNs) and PAs.

In 2002, there were more than 130 accredited educational programs in the United States. PAs receive about 26 months in average (24-33 months) of training from the Accreditation Review Commission on Education for the PA including classes of anatomy, pathology, pharmacology, microbiology, clinical manual, health promotion, clinical medicine, and medical ethics, established by medical schools, universities, and educational hospitals. In Singapore, Japan and Taiwan, there is no nationally recognized qualification system for PAs.

When introducing foreign system into Korea, the status of the domestic medical system and medical insurance program should be fully considered. In addition, the system should be verified through long-term research, and an action plan should be established and initiated as a pilot study before entering into the actual implementation. Currently, we do not have a national level program to educate PAs. Nevertheless, an illegal and unstructured PA system has been customarily and arbitrarily implemented without any formal, recognized or accredited educational program in Korea.

PA's scope of work

The scope of PA work in the United States is broad but relatively clear. Under the guidance and supervision of a doctor, a PA can provide medical history, physical examination, clinical diagnosis, interpretation of diagnostic tests, drug prescription, wound closure, and patient education. PAs also perform various tasks, such as paperwork, primary assistance in surgery, and examination orders. In the UK, a PA's work scope is more limited in the US. In the US, PAs can prescribe drugs independently, but not in the UK. In the UK, the scope of the PA's work is defined as the “Matrix Specification of Core Clinical Condition.”
Influence of PA System in Korea

The PA system should not substitute for residents' work. The main purpose of introducing the PA system in Korea is to save medical costs and to aid in ensuring patient safety. However, the influences of implementing PAs are closely related to the deprivation of part of the training opportunities among young doctors and trainees. These doctors are much concerned about the gap in education and training for future medical profession. Before introducing the PA system, it is of foremost important to thoroughly review and prepare for the new resident training program so it will not be interfered with or conflicted.

An in-depth discussion and consensus are needed concerning the PA's qualifications and status of job description. It is also important to secure financial resources to support the PA system related to the National Health Insurance Service. There are other prerequisites to be considered before introducing the PA system in Korea. Below are some possible influences of the PA system to our medical environment, when introduced without ample preparation of these prerequisites.

Threats to the stability of the national medical delivery system
Whereas the PA system began as an alternative to the shortage of doctors in western countries, the initial purpose of introducing the PA system was different in Korea. Thus, it will be faced with issues of patient safety and quality of medical care in the process of medical delivery due to the replacement of professionally trained medical personnel with readily available and easily affordable PAs. Moreover, serious and countless conflicts of legal responsibility may arise when and if medical disputes occur in our system where PAs do not have legal position as nationally accredited, certified medical healthcare professionals with formal education and training.

Accelerating patient overcrowding in large hospitals at metropolitan area
The current and past biggest problem in Korea's medical delivery system is the overcrowding of patients in large hospitals in the metropolitan area. If the large hospitals operate with more medical assistants such as PAs, the more deformed and skewed, the extremely serious patient overcrowding phenomenon will continue.

Legal liability for medical disputes
A licensed physician has ultimate responsibility for the practice of medicine. However, PAs without certified authorization and licensure will continuously struggle with responsibilities between illegal and legal tasks given in their work. The PA system should establish the rules for delegated authority and create a safe medical environment. The NHIS and hospitals must also bear costs and risks of such incidents for patient safety and quality improvement.

Liability between physicians and PAs
PAs cannot independently perform the doctor's medical work, and must obtain specific and comprehensive work instructions from the doctor. The specific meaning of ‘medical assistance’ and ‘doctor's supervision’ requires legal definition, interpretation, and judgment. A PA's medical practice becomes an unlicensed medical practice if it deviates from the practice of medical assistance or without the supervision of a physician. The legal responsibilities of PAs differ according to the limit of medical empowerment and their role in cooperative care.
PA’s work scope is not defined by law. The area of medical practice that PAs can do is not specifically designated. In reality, many illegal medical practices are being carried out by PAs. In view of the current medical law, there is no legal basis for PAs to be protected. The delegated physician bears all responsibilities, because the work boundaries of PAs are not established.

Healthcare insurance payment system
Financially, who will be in charge of the new system? In countries that emphasize more on public health, such as the United Kingdom, the government or national health insurance system usually takes responsibility. Conversely, in countries where private medical care is better developed, like the United States, hospitals will take the primary responsibility for the cost of the consumer and pass it on to insurance costs later. In Korea, most medical services are provided by private hospitals (over 90 percent). Korea has a single national health insurance system like the United Kingdom. In such case, it will be difficult to decide whether the government, NHIS, or even the hospitals should be responsible for the cost burden of the preparation and operation of the new PA system.

In Korea’s national health insurance system, doctors’ labor costs are reimbursed for only about 80% of the actual cost. The introduction of the PA system under the current health insurance payment system of a fee-for-service system may further undermine the financial soundness of hospitals. Even today, under the pretext of being supervised by doctors, countless numbers of low-quality medical services by PAs who are not trained are provided in real medical fields of Korea.

PA education system and license for patient safety and quality
The unstructured PA program will most likely threaten the safety of medical services. As uneducated PAs continue to work at hospitals, they are committing the mistake of undermining the foundation of the medical system by violating the scope of doctors’ licenses and engaging in illegal treatment beyond the provisions of the Medical Act. PAs, without national level of accredited formal education and training program will be a threat to patient safety and medical quality.

Suggestions
Ensuring patient safety and quality of care, nurturing future medical professionals and keeping the medical delivery system are the core values that cannot be compromised even if it takes time to establish. First, the government and the medical society must accurately survey the actual situation of PAs. It is essential to study how to operate the PA system so that it fits and is suitable without hindering patient safety, quality of medical care, and education and training of residents. By exploring these values of the PA system, that may restructure the current healthcare system, Korean medical society and government must address and tackle these challenges. A pilot demonstration project can be initiated to launch the Korean PA as in the UK or Canada. The work boundaries of PAs should also be established. In the meantime, the medical society should voluntarily monitor the illegal medical practices of UAs, so a self-restraint effort will be made to eradicate it. Also, there should be serious discussions about the educational and training settings for PA. Lastly, the government should put all-out efforts into improving the medical payment system so that patients avoid overcrowding of large hospitals in the cosmopolitan area, while a tertiary hospital is appropriately compensated for a high-severity disease even with keeping the working hour restriction of residents.
Conclusion

Professional organizations with public credibility, such as the Korean Medical Association (KMA), Korean Academy of Medical Sciences (KAMS), Korean Hospital Association (KHA), National Health Insurance Service (NHIS), Health Insurance Review and Assessment Service (HIRA), and the Ministry of Health and Welfare, should first initiate the discussion and reach a mutual agreement on the fundamental issues described in the text before the establishment and implementation of a legal PA system in Korea. If and when this step is completed, the detailed guidelines of the PA system can be prepared, with the collaboration of other interested groups. These include the specific scope of work, roles, and job specification between PAs and doctors, and proper certified education and training program with national level of accreditation and licensure. The authors believe that, without solving these fundamental issues and taking proper steps beforehand, the current premature and illegal attempts in implementing a PA system in Korea will not only be a temporary solution, but will also eventually fail.

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