



BRIEF REPORT

Review for the Korean Health Professionals and International Cooperation Doctors Dispatched to Peru by the Korea International Cooperation Agency (KOICA)

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Received: November 25, 2014
Revised: January 30, 2015
Accepted: February 1, 2015

KEYWORDS:

health professionals,
international cooperation
doctors,
KOICA,
Peru

Abstract

South Korea dispatches Korean nationals to partner developing countries as an Official Development Assistance (ODA) project through the Korea International Cooperation Agency (KOICA). In the health sector, KOICA dispatches international cooperation doctors (ICDs), nurses, physical therapists, radiologic technologists, nutritionists, medical laboratory technologists, occupational therapists, and dental hygienists. A total of 216 ICDs were dispatched over 19 times from 1995 until 2013. There were 19 areas of specialties among the ICDs. The most common specialty was internal medicine (61/216, 28.2%), the second most common specialty was general surgery (43/216, 19.9%), followed by oriental medicine (27/216, 12.5%), pediatrics (17/216, 7.9%), orthopedics (16/216, 7.4%), family medicine (16/216, 7.4%), and odontology (14/216, 6.5%). The ICDs have worked in 21 countries. KOICA dispatched the highest number of ICDs to Asia (97/216, 44.9%), followed by Africa (50/216, 23.1%), Latin America (34/216, 15.7%), the commonwealth of independent states (31/216, 14.4%), and Oceania (4/216, 1.9%). Nobody was dispatched to the Middle East. A total of 134 KOICA health professionals were dispatched to Peru from 1996 until October 1, 2014. Of these, 19.4% (26/134) were ICDs, 44.8% (60/216) were nurses, 20.1% (27/134) were physical therapists, 6.7% (9/134) were radiologic technologists, 2.2% (3/134) were nutritionists, and 6.7% (9/134) were medical laboratory. ICDs' specialties comprised internal medicine (13/26, 50%), family medicine (8/26, 30.8%), pediatrics (2/26, 7.7%), otorhinolaryngology (1/26, 3.8%), orthopedics (1/26, 3.8%), and oriental medicine (1/26, 3.8%). Most of the dispatched health professionals worked at institutions that were supported by KOICA. For this reason, the proportion of health professionals who worked at public health centers (PHCs) was the highest (58.2%, 78/134) when classified by workplace type. Other KOICA health professionals worked at hospitals, governmental organizations (GOs), or schools.

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1. Introduction

Currently, the international community led by developed countries provides many Official Development Assistance (ODA) works with the aim of poverty eradication in developing countries [1]. The health sector is fundamental among several ODA works. The United Nations (UN) established eight millennium development goals for reducing extreme poverty in 2000, and three of these are associated with the health sector [2].

South Korea dispatches Korean nationals to partner developing countries as an ODA project through the Korea International Cooperation Agency (KOICA) which is founded as a government agency [3]. In the health sector, KOICA dispatches several health professionals such as international cooperation doctors (ICDs), nurses, physical therapists, radiologic technologists, nutritionists, medical laboratory technologists, occupational therapists, and dental hygienists [4].

Peru, which is located on the central pacific coast of South America, has around 30 million nationals. There is a tremendous gap between the rich and the poor; the total income of the bottom 50% contributes only 13% of the gross domestic product and 65% of nationals cannot take advantage of health insurance [5]. KOICA began to dispatch volunteers to Peru in 1996. The first volunteers consisted of four professionals, including one ICD. KOICA overseas office in Peru was founded in 2000, and a memorandum of understanding about volunteers dispatched between Peruvian and Korean governments was signed on December 5, 2003 [6]. The health sector has been one of the principal ODA strategies of KOICA in relation to Peru. For this reason, five public health centers (PHCs) and one hospital constructed by the Korean government in Peru now exist.

Unfortunately, there are only a few studies about Korean health professionals and ICDs dispatched by KOICA. As a recent ICD in Peru, I will briefly introduce the ICD program and Korean health professionals who worked in Peru until October 1, 2014.

2. ICD program and statistics

The ICDs program is based on the objectives of the Korea overseas volunteer (KOV) program that helps to promote friendship, international cooperation, and interaction between partner countries and South Korea by means of dispatching national professionals and socioeconomic support [3]. ICDs are Korean medical doctors, dentists, or oriental doctors who were dispatched to developing countries for medical activities through the KOV program of KOICA. They are Korean nationals who have certification as a specialist doctor, or who are going to acquire that qualification within 3 months; their military service can be replaced with overseas volunteer work [7].

Participants complete a 2–4-week course of the KOV training program that includes local language and job training at the KOICA institute which is located in Seoul, South Korea before dispatch. When they arrive in partner countries, they complete a 4-week course of adaptation training which focuses on the local language. Then, ICDs start to work at institutions related to health such as PHCs, hospitals, or governmental organizations (GOs). The obligatory work period in the country to which they are dispatched is 2 years and 4 months of the total contract term (3 years). If they want, they can prolong their work in the local country up to 6 months or else they must return to South Korea and fulfil their contract term by working at public institutions which are related to medical research or development (e.g., general hospitals, national medical centers, health industry development institutes, information support of social welfare facilities, etc.) for the remaining time.

KOICA started to dispatch seven ICDs to Bangladesh, Kenya, Mongolia, Guatemala, Tanzania, Cameroon, and Nepal in 1995. KOICA has dispatched ICDs to several developing countries annually until 2013. A total of 216 ICDs were dispatched more than 19 times. The lowest number of ICDs (5) were dispatched in 1998 and 1999 and the highest number of ICDs (19) were dispatched in 2007, 2009, 2010, and 2012.

There were 19 areas of specialties among the ICDs dispatched. The most common specialty was internal medicine (61/216, 28.2%), general surgery was the second most common (43/216, 19.9%), followed by oriental medicine (27/216, 12.5%), pediatrics (17/216, 7.9%), orthopedics (16/216, 7.4%), family medicine (16/216, 7.4%), and odontology (14/216, 6.5%) (Table 1).

There are 21 countries where ICDs have worked. KOICA dispatched the highest proportion of ICDs to Asia (97/216, 44.9%), followed by Africa (50/216, 23.1%), Latin America (34/216, 15.7%), the commonwealth of independent states (31/216, 14.4%), and Oceania (4/216, 1.9%). Nobody was dispatched to the Middle East (Table 2).

3. Statistics of KOICA health professionals in Peru

KOICA has been dispatching ICDs, nurses, physical therapists, radiologic technologists, nutritionists, and medical laboratory technologists as health professionals to Peru. The first KOICA health professional team of Peru consisted of one ICD and two nurses, and they were dispatched in 1996. A total of 134 KOICA health professionals existed in Peru until October 1, 2014. Of these, 19.4% (26/134) were ICDs, 44.8% (60/216) were nurses, 20.1% (27/134) were physical therapists, 6.7% (9/134) were radiologic technologists, 2.2% (3/134) were nutritionists, and 6.7% (9/134) were medical laboratory (Table 3).

Table 1. Specialties of international cooperation doctors.

Specialty	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total (%)
Internal medicine		1	2	2	3	2	4	3	1	3	5	3	4	6	4	6	4	5	3	61 (28.2)
General surgery			2	1	2		3	2	2	1	4	1	4	5	3	4	2	4	3	43 (19.9)
Pediatrics	2	1	1			1						2	3	1	2	1		2	1	17 (7.9)
Orthopedics	1	3				1							3	1	2	2	2	1		16 (7.4)
Family medicine			1	2	1	2			2			1	1		1		1	1		16 (7.4)
OBGY	1																			1 (0.5)
Emergency medicine	1															1				2 (0.9)
Radiation oncology			1																	1 (0.5)
Plastic surgery	1																			1 (0.5)
Neurosurgery		1							1										1	3 (1.4)
Otorhinolaryngology							1				1								2	4 (1.9)
Preventive medicine		1																		1 (0.5)
OEM																			1	1 (0.5)
Ophthalmology															1		1			2 (0.9)
Dermatology															1		1		1	3 (1.4)
Thoracic surgery																2		1		3 (1.4)
Anesthesiology																1	1	1		3 (1.4)
Oriental medicine ^a				1		1	1	2		2		2	2	2	4	2	4	2	2	27 (12.5)
Odontology ^a	1		1			1	1	1	2	1		1	2		1				1	14 (6.5)
Total (%)	7 (3.2)	8 (3.7)	9 (4.2)	5 (0.5)	5 (0.5)	8 (3.7)	10 (4.6)	8 (3.7)	8 (3.7)	7 (3.2)	10 (4.6)	10 (4.6)	19 (8.8)	15 (6.9)	19 (8.8)	19 (8.8)	16 (7.4)	19 (8.8)	14 (6.5)	216 (100)

^aWe did not classify according to their subspecialties. OBGY = obstetrics/gynecology; OEM = occupational and environmental medicine.

Table 2. Regional distribution (classified by continent) of international cooperation doctors.

Continents	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total (%)
Asia ^a	3	3	4	2	4	3	7		4	1	5	2	10	8	6	12	5	9	9	97 (44.9)
Africa ^b	3	4	3		1	1		3	1	2	2	2	5	3	5	5	6	3	2	50 (23.1)
Latin America ^c	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3	2	3	6	1	34 (15.7)
CIS ^d				2	2	2	2	3	1	2	1	3	2	2	4	2	2	1	2	31 (14.4)
Oceania ^e			1			1						1			1					4 (1.9)
Total (%)	7 (3.)	8 (3.7)	9 (4.2)	5 (0.5)	5 (0.5)	8 (3.7)	10 (4.6)	8 (3.7)	8 (3.7)	7 (3.2)	10 (4.6)	10 (4.6)	19 (8.8)	15 (6.9)	19 (8.8)	19 (8.8)	16 (7.4)	19 (8.8)	14 (6.5)	216 (100)

^aIncludes Bangladesh, Cambodia, Laos, Mongolia, Nepal, and Vietnam; ^bIncludes Cameroon, Ethiopia, Ghana, Kenya, Tanzania, and Uganda; ^cIncludes El Salvador, Guatemala, Paraguay, Peru, and Republic of Dominica; ^dIncludes Kazakhstan and Uzbekistan; ^eIncludes Papua New Guinea and Republic of Palau. CIS = commonwealth of independent states.

ICDs were dispatched more than 15 times. Their specialties were internal medicine (13/26, 50%), family medicine (8/26, 30.8%), pediatrics (2/26, 7.7%), otorhinolaryngology (1/26, 3.8%), orthopedics (1/26, 3.8%), and oriental medicine (1/26, 3.8%) (Table 4). When classified by workplaces, 76.9% (20/26) of ICDs worked at PHCs, 19.2% (5/26) worked at hospitals, 3.8% (1/26) worked at a GO (district health board), and nobody worked at schools.

Nurses were dispatched more than 32 times. Sixty-five percent (39/60) of them worked at PHCs, 8.3% (5/60) worked at hospitals, 13.3% (8/60) worked at GOs (district health boards, regional government, and city halls), and 13.3% (8/60) worked at schools.

Physical therapists were dispatched more than 18 times. A total of 44.4% (12/27) of them worked at PHCs, 11.1% (3/27) worked at hospitals, 25.9% (7/27) worked at GOs (Peru sports councils and KOICA Peru office), and 18.5% (5/27) worked at schools.

Radiologic technologists were dispatched more than nine times. A total of 44.4% (4/9) of them worked at PHCs, 55.6% (5/9) worked at hospitals, and nobody worked at GOs or schools.

Nutritionists were dispatched more than twice. One hundred percent (3/3) worked at GOs (district health board and general direction of health and environment), and nobody worked at PHCs, hospitals, or schools.

Medical laboratory technologists were dispatched more than eight times. A total of 33.3% (3/9) of them worked at PHCs, 22.2% (2/9) worked at hospitals, 44.4% (4/9) worked at GOs (district health boards), and nobody worked at schools (Table 3).

4. Discussion

In order to achieve the millennium development goals targets for reducing infant mortality (Goal 4), promoting maternal health (Goal 5), and reducing HIV/AIDS, malaria, and other diseases (Goal 6), many international organizations are increasing the amount of support in health sectors. The average proportion of ODA on health sectors among the Organization for Economic Cooperation and Development (OECD)/Development Assistance Committee (DAC) members is 11.1%, and South Korea contributes to this through capital assistance by the Export-Import Bank of Korea and grant assistance by KOICA [8].

Health professional dispatch is very necessary in developing countries, because those countries do not have a well-established health professional training system. Moreover, the manpower outflow to other countries is frequent [9].

We can evaluate the ICD program as one of the most representative health professional dispatch programs of South Korea. ICDs did various activities in countries to which they were dispatched such as local patient care, disease prevention, health environment improvement,

Table 3. Classification by workplace among the Korea International Cooperation Agency (KOICA) health professionals in Peru (1996~2013).

Occupation	Workplace	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total (%)	
International cooperative doctor	PHC	1		1	1		1	1	1	2	1	2	1	2	2		2	2		20	
	Hospital							1	1		1		1		1					5	
	GO ^a					1														1	
	School																			0	
	Subtotal	1	0	1	1	1	1	2	2	2	2	2	2	2	3	0	2	2	0	26 (19.4)	
Nurse	PHC	2	2	1	3	1	3	2	1	3	1	3			5	1	4	2	2	3	39
	Hospital									1		1	2		1					5	
	GO ^b							1			1	2		1	3					8	
	School											1	1	3	1	2				8	
	Subtotal	2	2	1	3	1	3	3	1	4	2	7	3	9	6	6	2	2	3	60 (44.8)	
Physical therapist	PHC				1					1		2	1	2		2		1	2	12	
	Hospital								1			1		1						3	
	GO ^c							2		2	1					1		1		7	
	School											1		1		1	2			5	
	Subtotal	0	0	0	1	0	0	2	1	3	1	4	1	4	0	4	2	2	2	27 (20.1)	
Radiologic technologist	PHC									1		1	1	1						4	
	Hospital								1			1	1	1		1				5	
	GO																			0	
	School																			0	
	Subtotal	0	0	0	0	0	0	0	0	2	0	2	2	2	0	1	0	0	0	9 (6.7)	
Nutritionist	PHC											2	1							0	
	Hospital																			0	
	GO ^d											2	1							3	
	School																			0	
	Subtotal	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	3 (2.2)	
Medical laboratory technologist	PHC					1			1	1										3	
	Hospital									1			1							2	
	GO ^e											2	1	1						4	
	School																			0	
	Subtotal	0	0	0	0	1	0	0	1	2	0	2	2	1	0	0	0	0	0	9 (6.7)	
Total (%)		3 (2.2)	2 (1.5)	2 (1.5)	5 (3.7)	3 (2.2)	4 (3.0)	7 (5.2)	5 (3.7)	13 (9.7)	5 (3.7)	19 (14.2)	11 (8.2)	18 (13.4)	9 (6.7)	11 (8.2)	6 (4.5)	6 (4.5)	5 (3.7)	134 (100)	

^aIncludes district health board; ^bIncludes district health boards, regional government, and city halls; ^cIncludes Peru sports councils and KOICA Peru office; ^dIncludes district health boards and general direction of health and environment; ^eIncludes district health boards. GO = governmental organization; PHC = public health center.

Table 4. Specialties of internal cooperation doctors in Peru (1996~2013).

Specialties	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total (%)
Internal medicine	1	1	1	1	1	1	2	2	2	1	2	1	2	1	0	2	1	1	13 (50.0)
Family medicine	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8 (30.8)
Pediatrics	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2 (7.7)
Otorhinolaryngology	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 (3.8)
Orthopedics	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 (3.8)
Oriental medicine ^a	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 (3.8)
Total (%)	1 (3.8)	0 (0)	1 (3.8)	1 (3.8)	1 (3.8)	1 (3.8)	2 (7.7)	2 (7.7)	2 (7.7)	2 (7.7)	2 (7.7)	2 (7.7)	2 (7.7)	3 (11.5)	0 (0)	2 (7.7)	2 (7.7)	0 (0)	26 (100)

^aWe did not classify according to their specialties.

local workforce training, etc. By means of those activities, they contributed to improving the developing country's healthcare level, as well as enhancing the general image of South Korea [9].

ICDs were dispatched according to the necessity of partner developing countries. For this reason, the major specialties were internal medicine (28.2%, 61/216) and general surgery (19.9%, 43/216). In addition to those specialties, the demand for pediatrics, orthopedics, family medicine, oriental medicine, and odontology exists continuously. The ICDs who had new kind of specialties that did not exist before in the partner countries, were dispatched for three reasons. First, the demand occurred by the request of senior ICDs or the institutions where senior ICDs had worked. Second, when new PHCs or hospitals that were constructed by KOICA opened. Finally, when the supply of required specialties was insufficient.

A total of six areas of specialties of ICDs (internal medicine, family medicine, pediatrics, otorhinolaryngology, orthopedics, and oriental medicine) have been dispatched to Peru; the major specialties were internal medicine (50.0%, 13/26) and family medicine (30.8%, 8/26). Those two specialties accounted for 80.8% (21/26). This phenomenon is closely related to the existence of five PHCs in Peru that were constructed by KOICA.

Concerning the continents to which ICDs were dispatched, the greatest number of ICDs were dispatched to Asia (44.9%, 97/216), followed by Africa (23.1%, 50/216), Latin America (15.7%, 34/216), and the commonwealth of independent states (14.4%, 31/216). Dispatch to Oceania occurred only four times (1.9%, 4/216) and the last dispatch to the Republic of Palau was in 2009. PHCs or hospitals that were supported by KOICA existed in most of the countries to which ICDs were dispatched, and most of the ICDs worked at these institutions. For example, most ICDs of oriental medicine (85.2%, 23/27) worked in Mongolia or Uzbekistan where KOICAs oriental hospitals existed (data not shown).

When analyzing by years, approximately eight ICDs were dispatched annually in the early period (1995~2006), and the number of ICDs annually dispatched rose to 19 in the late period (2007~2013). This is consistent with the change of government policy that amplified the scale of the KOV projects. Interestingly, there were only five ICDs in 1998 and 1999; it seems that this is closely related to the International Monetary Fund (IMF) economic crisis of South Korea in 1997.

Most of the dispatched health professionals worked at PHCs or hospitals that were supported by KOICA. In the case of Peru, most of the ICDs including this author (92.3%, 24/26) worked at PHCs or hospitals that were constructed by KOICA. Similarly to the ICDs, 43.3% (26/39) of nurses, 51.9%(14/27) of physical therapists, 66.7%(6/9) of radiologic technologists, and 55.6% (5/9) of medical laboratory technologists worked at those institutions (data not shown). For this reason, the proportion of health professionals who worked at PHCs was

the highest (58.2%, 78/134) when classified by types of workplace. This is considered to be a strategy that aims to achieve a synergistic effect in ODA through providing hardware s and software support together. In fact, the patients visits increased when KOICA health professionals worked at PHCs or hospitals that were supported by KOICA. As such, KOICA health professionals not only contribute to the improvement of the healthcare level of partner countries, but also have a role in promoting KOICA cooperation institutes.

Many dispatched health professionals who were sent to GOs worked at the PHCs or hospitals that are related to regional governments. For this reason, there are no differences in the work between health professionals of GOs and PHCs or hospitals. However, when it comes to physical therapists, 85.7% (6/7) of them within GOs were dispatched to Peru sports councils, and they worked as physical therapists of province sports teams.

Some nurses and physical therapists were dispatched to schools. Every physical therapist in schools worked at special schools. This seems to be associated with the policy of Peruvian special schools.

There are some limitations in this study. First, limited data was available for this article. Not enough data exist about dispatched health professionals and ICDs of KOICA. For this reason, most of the statistics of this article are based on internal data surveys. Second, some exceptional cases have not been considered. Some health professionals switched their workplace for various reasons. Furthermore, a few health professionals switched their working country, and midway return cases also existed. This report is based on the health professionals' most recent workplaces.

Despite these limitations, it is significant that this article is the first study about ICDs and health professionals of KOICA who were dispatched to Peru. As mentioned previously, ICDs and health professionals of KOICA led to an upgrade of Korea's national image and an improvement in the friendship between two countries through their activities. Unfortunately, the ICD program is expected to expire from January 1, 2006 and the last ICDs were dispatched in 2013 [10]. Instead of this program, KOICA started to draft and dispatch medical doctors through a long-term advisory program from March, 2013. There were several reasons to dispose of the ICD program. First, the proportion of men is decreasing in medical schools. This is related to changes in the Korean medical school system. Korea introduced a graduate school in 2005. Most male students admitted to the graduate medical schools have already fulfilled their military duties, and the proportion of female students has increased rapidly. As a result, similarly to

public health doctors, it became difficult to recruit ICDs [11,12]. Second, the ICD program is included in the International Cooperation Volunteer (ICV) program. Similar with ICDs, ICVs are also Korean men who can replace their military duty with overseas volunteer work. However, the need for the ICV program has decreased in accordance with the increase in the total number of other KOICA volunteers [12]. We expect KOICA to promote and develop health professionals dispatch programs that can replace the ICD program and we hope that the status of Korea in the international health sector will rise.

Conflicts of interest

The author declares no conflicts of interest.

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