

# Evaluation of Hypertension Prevention and Management Programs Conducted by Community Health Nurse Practitioners in Rural Areas of Korea

Myung Soon Kwon\*†, Won Jung Cho\*\*,  
Mi Ja Kim\*\*\*, Hyeonkyeong Lee\*\*

\* Division of Nursing, Hallym University Chuncheon, Korea

\*\* Department of Nursing Environment Systems College of Nursing, Yonsei University, Seoul, Korea

\*\*\* Department of Medical-Surgical Nursing, College of Nursing, University of Illinois at Chicago, Chicago, Illinois

## <Abstract>

**Objectives:** This study aims to evaluate effectiveness of hypertension prevention and management programs (HPMPs) in rural Korea. **Methods:** A questionnaire survey was conducted with 700 community health practitioners working at primary health care posts (PHCPs). The questionnaire had four domains, which were hypertension management, hypertension prevention, the PHCP environment, and evaluation system, each with different maximum weighted values (WVs). Weighted values of 100 indicate the best effectiveness for the HPMP in all four domains. **Results:** The average WVs and percent effectiveness of all four domains combined was 61.65 (62%); the hypertension management domain was 28.81 (72%); the hypertension prevention domain was 23.44 (67%); the PHCP environment was 4.29(43%); and the evaluation system was 5.10(34%). **Conclusion:** The HPMPs were generally effective, and hypertension management was the most effective. The environment of PHCPs and the evaluation system of HPMPs should be improved to increase the effectiveness of the HPMPs.

**Key words:** Hypertension, Program evaluation, Rural population

## I. Introduction

Hypertension is a major risk factor for cerebrovascular diseases and heart diseases (Vasan et al. 2004; Miura et al. 2001) as well as in the progression of other health problems such as strokes, myocardial infarction, and cardiac failure (National Institute of Health 2003). Overall, the prevalence of hypertension among Korean adults over 30 years old was 23.9% in 2005 (Korean Center for Disease Control and Prevention 2006), which was slightly lower than the prevalence of adult hypertension in the United States (29.5%) in 2003-2004 (Ong et al. 2007) and worldwide in 2000 (26.4%) (Kearney et al. 2005). However, the national goal of hypertension prevalence presented

in the Health People 2010 (Korean Ministry of Health and Welfare 2005) in Korea is 20.2%, indicating that more effort is needed to reach the goal outlined by Health People 2010.

The prevalence of hypertension was much higher in the Korean population over 60 years old (56.4%) and the discrepancy between urban (22.1%) and rural areas (31.1%) was relatively high (Korean Center for Disease Control and Prevention 2006).

Korea is one of the most rapidly aging countries in the world. In particular, rural areas in Korea have a proportionately larger number of elderly people because many young adults migrated to urban areas. Earlier studies to be presented hereafter found that the most important health problem among residents in the

Corresponding Author: Myung Soon Kwon

Division of Nursing, Hallym University, 39 Hallymdaehak-gil, Chuncheon, Gangwon-do, 200-902, Korea

Tel: +82-33-248-2719 Fax: +82-33-248-2734 E-mail: kwon1314@hallym.ac.kr

Article submitted 5 November 2010, Revised 1 December 2010, Approved 11 December 2010

rural areas of Korea is hypertension. A research team of community health nurse practitioners (CHNPs) working in one of nine provinces in Korea (Jeon & Community health nurse practitioners' research team in Chungchungbook-do 2003) reported that the overall prevalence rate of hypertension was 25.6% for males, 41.2% for females, and 34.6% for the combined population. The study also reported that more than 50% of the patients who visited the Primary Health Care Posts (PHCPs) had problems related to hypertension. In a recent study conducted with predominantly older farmers in rural areas near urban areas where PHCPs are located (Park, Ju, & Kim 2008), only a quarter of the farmers were normotensive: 27% were hypertensive and 76% were pre-hypertensive. During the last decade, the number of patients that had their hypertension under control has increased, but more than two-thirds of the adults with hypertension still did not have their blood pressure (BP) under control in 2005 (Korean Center for Disease Control and Prevention 2006). This indicates that in rural areas with a high proportion of older people, the hypertension prevention and management programs (HPMPs) have become more important than any other health management programs.

There has been increasing emphasis on the prevention and treatment of hypertension by the Korean government. It is believed that the most efficient way to conduct HPMPs was through the public health network, which is composed of three levels of health centers: the Public Health Center (PHC), the Sub-public Health Center (SPHC), and the PHCP (Ministry of Health and Welfare 2002). Out of the public health network, CHNPs were designated to be in charge of the HPMPs for the rural residents who have had limited access to physicians in the community. The CHNP system in Korea has been acknowledged worldwide as successful primary health care policy. The CHNP, composed of a registered nurse or midwife with the completion of 24-week supplementary training, has been dispatched to PHCPs nationwide since 1981 and has played an essential role in improving primary health care in remote rural areas of Korea (Kim, 1984; Han, 1999). The PHCPs are located within agricultural or fishing communities and can be accessed by over two-thirds of Korean residents within 30 minutes by any type of transportation (Cho & Kashka 2004).

Since there are no physicians on site at PHCPs, all CHNPs were given prescription authority for commonly used drugs. In addition, they implement HPMPs according to the government guidelines (Lim 2002). Through both onsite and outreach PHCP programs, the CHNPs keep close contact with the community residents; thus, CHNPs had better opportunities to manage the HPMPs (Kim, Moon, Kang, Lee, & Hong 1997). However, lack of systematic evaluation of the HPMP activities to date has led to our current study.

Thus, the purpose of this study is to develop evaluation tools for the hypertension prevention and management program provided by CHNPs in rural areas of Korea and to evaluate the program which is conducted in the fields using the tools.

## II. Methods

### 1. Study Samples

A total of 1,849 CHNPs were located in rural Korea at the time of the study. A list of 1,849 CHNPs that were generated for continuing education was used as a sampling frame. The list was composed of CHNPs from three different district levels: 68 (3.7%) from metropolitan cities, 687 (37.2%) from cities, and 1,094 (59.2%) from counties. From the list of CHNPs, considering the composition, total 700 locations including 26 locations in metropolitan cities, 260 in cities, 414 locations in counties were chosen at random. The response rate of the questionnaire was 215 (31%).

### 2. Instruments

The effectiveness of the HPMP was measured by a self-reported questionnaire developed for this study. The evaluation tool was based on the results of a literature review, field visits, and six direct interviews with the CHNPs working at PHCPs. The contents were verified by expert group (5 administrative staffs related to PHCPs, 6 CHNPs and 5 specialists in theory and research on HPMP) 2 times. Items agreed by more than 80% of experts were chosen. Then

evaluation tool which was composed of 41 items accessible in detail, 12 sub-domains in 4 domains was completed.

The tool had four domains, each with different maximum weighted values (WVs): management of hypertensive subjects (WV = 40), hypertension prevention program for healthy subjects (WV = 35), evaluation system of the HPMP (WV = 15), and the environment of the PHCPs (WV = 10). Weighted values of 100 indicate the best HPMP in all four domains.

The four domains had sub-domains with specific items for evaluation. The first domain was hypertension management with the following sub-domains: management of health records of patients with hypertension (8 items), teaching and counseling (2 items), and treatment and follow-up of patients with hypertension (6 items). The second domain was the hypertension prevention program with the sub-domains of health education (8 items) and the early detection of patients with hypertension (6 items). The third domain was the evaluation system of the HPMP with the sub-domains of program planning (1 item), formative evaluation (1 item), process evaluation (1 item), and summative evaluation (1 item). The fourth domain was the PHCP environment with the sub-domains of PHCP accessibility to residents (2 items), accessibility of general health data to the public (2 items), and availability of health information to the public through a multimedia medium (1 item). Content validity of the questionnaire, including the weighted values, was established by 16 content experts: six CHNPs, five administrators in charge of PHCPs, and five professors with specialties in community health nursing.

### 3. Data Collection

A questionnaire was mailed to 700 CHNPs with a cover letter explaining the purpose of the study and asking for their participation. Their responses were considered consent to participate in the study. A total of 215 CHNPs responded (31% response rate), and all were used for data analysis.

### 4. Data Analysis

The SPSS WIN 12.0 program was used to analyze the

responses to the questionnaire. Descriptive statistics were used to describe general characteristics of the CHNPs and the study regions. The activities of the HPMP are evaluated by the percentages of the WVs for each domain and sub-domain.

## III. Results

### 1. Sample characteristics

Characteristics of the participants are shown in Table 1. A majority (51.4%) of CHNPs were 41 to 50 years of age, with an average age of 43 years (ranging from 27 to 65 years). All (n = 214) were females except for one, and most CHNPs (90.6%) were married. Most CHNPs (62.2%) graduated from a 3-year nursing program. Twenty-eight percent had baccalaureate degrees in nursing, while 9.6% had a master's degrees or greater. A majority (57.7%) of CHNPs had greater than 16 years of work experience, though 6.3% had less than 5 years. Most CHNPs (80.2%) had more than four community health workers assisting them. These community health workers received basic training for primary health care for one week from a CHNP. Seventy-seven percent of the CHNPs worked in agricultural districts, while 15.1% worked in fishing villages.

### 2. Effectiveness of the HPMP Programs Performed by Community Health Nurse Practitioners

The average mean of all four domains combined was  $61.65 \pm 10.67$ . The average mean of each domain is shown in Table 2. Hypertension management program-related activities performed by CHNPs were found to be most effective, followed by the hypertension prevention program, the PHCP environment, and the HPMP evaluation system.

Among the hypertension management program, CHNPs more commonly conducted activities related to teaching and counseling (85.9%) and treatment and follow-up of patients with hypertension (82.8%) than activities related to the management of health records of patients with hypertension (52.0%). Regarding the hypertension prevention program, CHNPs more

&lt;Table 1&gt; General characteristics of the community health nurse practitioners

Characteristics		N (%)	Mean±SD
Age (years)	21-30	5 (2.4)	42.64±6.04
	31-40	83 (39.2)	
	41-50	109 (51.4)	
	51-60	13 (6.1)	
	>60	2 (.9)	
Gender	Male	1 (1.0)	
	Female	214 (99.0)	
Marital status	Married	190 (90.9)	
	Single	14 (6.7)	
	Other	5 (2.4)	
Nursing education	Diploma	130 (62.2)	
	Baccalaureate degree	59 (28.2)	
	Master's degree/higher	20 (9.6)	
Working experience (years)	<5	13 (6.3)	
	6-10	32 (15.4)	
	11-15	43 (20.7)	
	16-20	97 (46.6)	
	>20	23 (11.1)	
Living with family	Yes	157 (75.1)	
	No	52 (24.9)	
Location of PHCPs	Agricultural area	122 (76.7)	
	Fishing area	24 (15.1)	
	Other	13 (8.2)	

commonly conducted the activities related to health education (74.3%) and early detection of patients with hypertension (57.3%). In the comparison of the activities in the two areas mentioned above, CHNPs were less likely to perform activities related to HPMP evaluation. All of the formative, process, and summative evaluations are lower than 50% of the weighted value for effectiveness. In the evaluation of the environment of the PHCPs, the CHNPs perceived that the accessibility of PHCPs and the availability of health information to the public

by multimedia medium were not good for residents.

### 3. Effectiveness of the HPMP Programs by Geographical Characteristics

The effectiveness of HPMP programs by each geographical characteristic were not statistically significant, with exception of the location of PHCPs. Out of 10 districts (metropolitan and 9 provinces) in Korea, Chungbook province, which is located in the middle of the country, showed the highest effectiveness

<Table 2> The HPMP evaluation tool

Domain	Sub-domain	The detailed evaluation items
Hypertension management program	Management of health records of patients with hypertension	Using designated recording paper for enroll of hypertension patients. Enroll and manage according to patient's characteristics Issue a card for management of hypertension Using electronic data processing for enroll and manage. Applicability of electronic data processing Whether the referral request Check and options of written reply Whether the connected system construction
	Teaching and counseling	Clients to be taught Educational contents
	Treatment and follow-up of patients with hypertension	Check the performance of life therapy Medication management Blood pressure Management Check for complication symptoms Request for clinical exam preventing complication Management of non-treated patients
Hypertension prevention program	Health education	Background Educational materials and contents Frequency Ability of educator Equiped with educational media Teaching methods Teaching place Whether educational evaluation
	Early detection of patients with hypertension	Using existing data Blood pressure measurement in a group Check blood pressure for a client who visits in clinic Check blood pressure through home visit Periodic monitoring and management of blood pressure for high-risk patients From community resources
Evaluation system of the HPMP	Program planning	Establishment of program plan
	Formative evaluation	Conduct pre-assessment to set goals
	Process evaluation	Continuous monitoring of project progress
	Summative evaluation	Achieving program objectives Outcome evaluation based on both provider and consumer
Environment of the CHCs	Accessibility of CHCs to residents	Physical Environment Social Environment
	Accessibility of general health data to the public	Approachableness of educational materials A variety of educational materials
	Availability of health information to the public by multimedia medium	A variety of promoting media and its application

scores, whereas Kyungnam and Chunnam provinces, which are located in the south of the country, showed the lowest effectiveness scores ( $F=3.645$ ,  $p<.001$ ). The populations under

the administration of the PHCPs ranged in number from 76 to 4,320 people. On average, 26.8% were populations aged 20-39 years; 39.3% were 40-64 years; and 26.7% were over 65 years

&lt;Table 3&gt; Effectiveness of the HPMP by domain (n = 215)

Domain (WV)	Sub-domain (WV)	Mean $\pm$ SD	Percent (%)*
Hypertension management program (40)	Management of health records of patients with hypertension (15)	7.80 $\pm$ 2.86	52.0
	Teaching and counseling (10)	8.59 $\pm$ 1.54	85.9
	Treatment and follow-up of patients with hypertension (15)	12.42 $\pm$ 1.82	82.8
		28.81 $\pm$ 4.35	72.0
Hypertension prevention program (35)	Health education (20)	14.85 $\pm$ 2.40	74.3
	Early detection of patients with hypertension (15)	8.59 $\pm$ 3.26	57.3
		23.44 $\pm$ 4.59	67.0
Evaluation system of the HPMP (15)	Program planning (1)	.70 $\pm$ .46	70.0
	Formative evaluation (4)	1.60 $\pm$ 1.97	40.0
	Process evaluation (4)	1.22 $\pm$ 1.46	30.5
	Summative evaluation (6)	1.58 $\pm$ 1.21	26.3
		5.10 $\pm$ 3.68	34.0
Environment of the CHCs (10)	Accessibility of CHCs to residents (4)	.94 $\pm$ 1.22	23.5
	Accessibility of general health data to the public (4)	2.43 $\pm$ 1.10	60.0
	Availability of health information to the public by multimedia medium (2)	.93 $\pm$ .50	46.5
		4.29 $\pm$ 1.81	42.9
Total		61.65 $\pm$ 10.67	61.7

\*The percent value based on the weighted value of each domain set as 100%.

old. The differences in the effectiveness of the HPMP programs by the proportion of population age in each PHCP were not statistically significant.

#### IV. Discussion

This study evaluated the effectiveness of hypertension prevention and management programs (HPMPs) in four major domains. The overall effectiveness of HPMPs was good, with 62% effectiveness. The hypertension management program was most effective among the four domains (72%), whereas the evaluation system was least effective (34%). The two

sub-domains of the hypertension management program, education and counseling (86%) and treatment and follow-up of hypertensive patients (83%) showed exceptionally high effectiveness, indicating the strength of the nursing practice in these areas.

Our result that the management of subjects with hypertension was most effective agrees with the report by the Ministry of Health and Welfare (2001). In comparison, the less effective hypertension prevention program found in our study may be explained by the limited resources available at the PHCPs. Since the CHNPs were the only health professionals at each PHCP, they had to perform multiple tasks. They needed to devote their time to essential matters such as care of the patients with urgent

&lt;Table 4&gt; Effectiveness of the HPMP by geographical characteristics (n = 215)

Variables	Categories	N	Mean	SD	F	p
Region	Metropolitan	12	62.83	9.92	3.645	<.001
	Kyeonggi province	12	68.33	10.57		
	Kangwon province	15	62.87	9.28		
	Chungnam province	42	61.38	9.02		
	Chungbook province	20	71.15	11.26		
	Chunnam province	36	58.39	10.38		
	Cheonbook province	21	60.81	11.18		
	Kyeongnam province	16	57.25	10.20		
	Kyeongbook province	34	58.88	10.47		
	Cheju province	7	62.86	7.11		
Geographical location by occupation	Agricultural	24	60.50	11.56	.186	.830
	Fishing	122	61.22	10.44		
	Others	13	62.69	7.76		
Number of residents under each PHCP	<500	52	60.48	12.11	.249	.910
	501-1000	110	61.66	10.45		
	1001-1500	29	62.14	11.59		
	1501-2000	7	62.86	6.82		
	>2001	8	63.63	5.66		
Proportion of adults (20-39 years old)	<25%	49	60.90	11.88	.617	.541
	26-50%	110	61.86	10.15		
	51-75%	9	65.11	8.22		
Proportion of middle aged (40-64 years old)	<25%	3	67.33	13.80	.706	.495
	26-50%	113	62.68	10.34		
	51-75%	45	61.04	11.60		

health problems, daily administration of the PHCPs, and providing government-required reports. Hence, the CHNPs most likely had limited time to pay attention to aspects of hypertension prevention. However, the high effectiveness shown in the teaching and counseling of the management domain and the high health education effectiveness in the prevention domain (74%) could also have included preventive measures that were not readily detectable.

The evaluation system showed the least effectiveness (34%) in our study, whereas the public health center showed 73% effectiveness (Ministry of health and welfare 2001). However, one should note that the public health center in the earlier study was a demonstration project conducted by the government, which tends to show more positive results. In fact, another study (Lee & Jin 2002) showed that the evaluation system of public health centers in general was inadequate. These findings indicate that most public health centers and PHCPs have poorly

developed evaluation systems.

The environment of PHCPs was another component we examined in our study. Our results showed that the environment of PHCPs was worse than that of public health centers (Ministry of Health 2001; Seoul National University 2000). Although direct comparison cannot be made due to the difference in design and measurements among the studies, the lower scores (indicating a worse environment) obtained in our study may be explained by the difference in resources and infrastructure between the PHCPs and public health centers. Unlike PHCPs, public health centers are bigger organizations with many departments and various health professionals such as medical doctors, dentists, nutritionists, physical therapists, and public health nurses. In addition, public health centers can be advertised through multimedia to the public. Interestingly, however, PHCPs utilized more computerized programs (69%) for the management of health records than the public health

centers (45%). This result may be related to the recent computer education program for CHNPs.

In this study, the evaluation data provided by CHNPs, who provide patient care themselves, may not be valid. However, there were no other health professionals or administrators who could respond to the questionnaire. In addition, the vast number of target PHCPs (n = 700) that were scattered around the country made it difficult, if not impossible, to visit each site individually and conduct direct evaluation. It would take a minimum of one day for each visit to these PHCPs and daily ferry service to some of the PHCPs in the fishing villages would have taken a minimum of two days under good weather conditions. Besides, external evaluators on site would have to gather the information from the PHCPs because the record keeping in these centers was not as complete as it could be. In addition, being the only health practitioners at PHCPs, CHNPs had the most intimate knowledge about the workings of PHCPs and the HPMPs. Given these circumstances, we reasoned that objective evaluation by outside evaluators would not increase the validity of the data. Furthermore, we anticipated receiving candid responses from the participants, since we made sure that all CHNPs understood our policy of confidentiality and anonymity in their responses.

In this study, 700 participants among 1,900 people in the population survey data used in data analysis, but the final 215 were used. To generalize the results of this study, 320 participants to be statistically significant due to a low response rate to generalize the results have limitations.

## V. Conclusion

The HPMPs implemented by the CHNPs were generally effective for residents in remote rural Korea. Management programs for hypertensive patients were more effective than prevention programs. Limited resources at the PHCPs may have contributed to the lower prevention activities. The findings of this study suggest that the environment and evaluation system of PHCPs need to be improved to increase the effectiveness of HPMPs.

## References

- Cho, H., & Kashka, M. 2004. The evolution of the Community Health Nurse Practitioner in Korea. *Public Health Nursing 21(3):287-294.*
- Han, M. S. 1999. Empowerment in the practice of Community Health Nurse Practitioners(CHPs). Ph.D. dissertation, Department of Nursing, University of Yonsei, Seoul, Korea.
- Jeon, M. Y., & Community Health Nurse Practitioners' research team in Chungchungbook-do. 2003. The prevalence, health behaviors, and control of hypertension in rural areas in Korea. *Journal of Korean Community Nursing 14(3):507-518.*
- Kearney, P. M., Whelton, M., Reynolds, K., Muntner, P., Whelton, P. K., & He, J. 2005. Global burden of hypertension; analysis of worldwide data. *The Lancet 365(9455): 217-223.*
- Kim, J. L., Moon, H. G., Kang, G. H., Lee, M. S., & Hong, D. Y. 1997. Community-based follow-up study of the compliance and its determinants in hypertension. *Korean Journal of Public Health 23(1):79-100.*
- Kim, J. S. 1984. Analytical study on performance of the community health practitioner in primary health care in Korea. Ph.D. dissertation, Department of Nursing, University of Yonsei, Seoul, Korea.
- Korean Center for Disease Control and Prevention. 2006. *Health behavior and chronic diseases statistics.* Seoul, Korea: Korean Center for Disease Control and Prevention.
- Korean Ministry of Health and Welfare. 2005. National health promotion plan 2010. Seoul, Korea:Korean Ministry of Health and Welfare.
- Lee, E. S., & Jin, Y. R. 2002. Status of hypertension management in public health centers - aspect of administration, skill and education-. Spring scholarship competition monument of day of science National Korean Nursing Association. 187-188.
- Lim, K. S. 2002. Practice of Hypertension and Diabetic management (based on community). community health practitioners association.
- Martin, M. J., S. B. Hulley, et al. 1986. Serum cholesterol, blood pressure, and mortality: implications from a cohort of 361,662 men. *The Lancet 2(8513):933-936.*
- Ministry of Health and Welfare, Health promotion stressed public health centers, Evaluation team with support for Specialty. 2001. Comprehensive report of program.
- Ministry of Health and Welfare. 2001. The guideline of the management of disease.
- Miura, K., Daviglius, M. L., Dyer, A. R., Liu, K., Garside, D. B., & Stamler, J., et al. 2001. Relationship of blood pressure to 25-year mortality due to coronary heart disease, cardiovascular diseases, and all causes in young adult men: The Chicago Heart

- Association Detection Project in Industry. *Archives of Internal Medicine* 161(12):1501-1508.
- National Heart, Lung, & Blood Institute. (2003). Your guide to lowering blood pressure. from <http://www.nhlbi.nih.gov/hbp/index.html>.
- Nursing College in National University, Ministry of Health and Welfare. 2000. The study on National public health center network through prevention management system of national chronic-regression disease. Seoul.
- Ong, K. L., Cheung, B., Man, Y. B., Lau, C. P., & Lam, K. 2007. Prevalence, awareness, treatment, and control of hypertension among United States adults 1999 - 2004. *Hypertension* 49:69-75
- Park, I., Ju, A., & Kim, Y. 2008. The relation between farmers' syndrome and quality of life of residents in suburban area. *Journal of Korean Community Nursing* 19(3): 495-505.
- Vasan, R. S., M. G. Larson, Leip, E. P., Evans, J. C., O'Donnell, C. J., Kannel, W. B., et al. 2001. Impact of high-normal blood pressure on the risk of cardiovascular disease. *The England Journal of Medicine* 345(18):1291-1297.

<국문초록>

## 농촌지역 보건진료소의 고혈압 예방 및 관리사업 평가

**목적:** 한국 농촌지역에 있는 보건진료소에서 수행하고 있는 고혈압 예방 및 관리 사업 평가도구를 개발하고, 이를 활용하여 현장에서 수행되고 있는 프로그램을 평가하고자 한다.

**방법:** 문헌고찰, 현장방문과 보건진료소에서 근무하는 보건진료원과의 심층면담을 통해 예비문항을 작성하고, 전문가(중앙기관의 업무행정담당자 5인, 보건진료원 6인, 이론과 연구전문가 5인)집단을 통해 2회 내용타당도 검정을 실시하였다. 전문가들에 의해 80%이상 동의한 항목만을 선정한 결과, 4개 영역, 12개 항목, 41개 세부평가 항목으로 구성된 평가도구가 완성되었다. 4개 영역은 고혈압 예방사업, 고혈압 관리사업, 사업여건조성, 자체평가로 분류되었고. 고혈압 예방사업 영역은 보건교육, 고혈압환자 조기발견 항목이 포함되었고, 고혈압 관리사업 영역은 고혈압환자 등록 및 관리사업, 교육 및 상담, 고혈압환자 치료 및 추서관리 항목이 포함되었다. 사업여건조성 영역은 지역주민의 접근성, 보건교육자료의 비치, 홍보 항목이 있고, 자체평가는 사업계획서 수립, 중간평가, 결과평가 항목으로 구성하였다. 영역별 가중치는 전문가타당도 검정을 통해 각기 다르게 설정하였으며, 연구대상은 전국 보건진료소를 모집단으로 비례층화추출법에 의해 700개소를 선정하였다. 연구의 윤리적인 측면을 고려하여 설문지 표지에 연구에 대한 구체적인 소개, 익명성보장과 자발성을 제시하고 자가 보고식의 우편설문조사를 실시하였다. 최종적으로 215개의 설문지를 자료 분석에 활용하였다.

**결과:** 영역별 평가결과에 의하면 고혈압 관리 사업이 평균 28.81점(72%), 고혈압 예방사업은 평균 23.44점(67%), 사업여건조성이 평균 4.29점(43%), 자체평가 5.10점(34%) 순으로 나타났다. 항목별 평가에서 가장 낮은 결과를 보인 것은 보건교육을 위한 교육매체 보유, 공식적인 연계망, 고혈압사업의 여건조성을 위한 물리적 환경조성과 사업결과로 나타났다.

**결론:** 보건진료소에서 실시하고 있는 고혈압 예방 및 관리 사업을 좀 더 효과적으로 수행하기 위해서는 사업여건조성과 자체평가 영역을 향상시켜야 할 것으로 사료된다.

**주제어:** 고혈압, 프로그램 평가, 농촌지역