

Original Paper

# Health Support Provided by Public Health Nurses for Middle-aged Recipients of Public Assistance Living at Home

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**Key words:** health problems, health support, middle-age, public assistance recipients, public health nurse

## Abstract

This study was conducted to examine the relationship between health problems in middle-aged recipients of public assistance living at home and awareness of these problems by public health nurses.

Survey items included the basic attributes of 353 public health nurses and their awareness of health problems in middle-aged recipients of public assistance living at home. The nurses were divided into two groups according to the level of their awareness, and logistic regression analysis was conducted with the two levels of (high and low) awareness as dependent variables.

Valid responses were collected from 206 nurses (valid response rate: 63.2%). The following nurses recognized that middle-aged recipients of public assistance have a number of health problems: those who work in government-ordinance-designated and major urban cities and towns; collaborate with social workers; and consider that the health needs of the recipients of public assistance should be understood. Public health nurses' awareness was not correlated with their age, years of experience, and whether or not they had experience of providing public assistance recipients with support.

It is necessary to implement education with an emphasis on the weak and improve the skills of public health nurses working in municipalities by providing them with support.

## 1. Introduction

The World Health Organization (WHO) and UN Human Settlements Programme (UN-HABITAT) jointly presented a report with the global theme: "Hidden images of cities: With the aim of reducing health disparities". According to this report, illnesses and other health problems are more serious among the poor living in urban areas, and health disparities are attributed to social status and the living environment. It suggests that local governments are responsible for reducing differences in the level of health among community residents [1].

Article 25 of the Constitution of Japan guarantees all people the right to maintain the minimum standard

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of living, including the public assistance system for people in poverty. Under this system, a survey is conducted to examine the living conditions of an applicant for assistance, including savings and whether the applicant is ill/injured or able to work, and the person will be provided with public assistance if his/her income is lower than the amount required to maintain the minimum standard of living as stipulated in the constitution. Public assistance is classified into eight types, including assistance for living, education, housing, and health and nursing care, and standards have been established for each of them [2]. For example, as for the minimum standard for monthly public assistance for one set of families with two children, it is 235,040 yen for livelihood assistance, education assistance and housing assistance in a first class place [3]. According to a 2004 survey conducted by the Ministry of Health, Labour and Welfare, the amount of public assistance in Japan is relatively large compared to the income support in Britain and public assistance in other developed countries [4]. However, this does not mean that the quality of life (QOL) of public assistance recipients (PARs) is high. Since the position of the public assistance system in a country depends on its relationship with the social security system of that country, there is no point solely comparing the public assistance systems of different countries without discussing them in relation to the social security systems. In fact, recipients of public assistance in Japan are required to undergo a means test, and some of them are stigmatized, according to a report [5].

In recent years, there have been significant changes in Japanese society and economy, including aging of the population, subsequent decrease in the workforce, and changes in the system of employment, such as an increase in the number of contract employees [6]. In response to these social changes, there has been a steady increase in the number of recipients of public assistance. There were approximately 1.95 million PARs in 2011, which was 1.52% or one in approximately 66 Japanese people [2]. The rate of increase in the number of recipients of public assistance during the period between 2000 and 2010 for the “other household” group was approximately 2.2, the highest recorded, due to the continuing recession [7]. The largest proportion, or 26.5%, of PARs cited “illness or injury to the head of the household” as the reason for their need for assistance (September 2010) [2]. According to a survey (2007 Survey on Medical Assistance), the largest proportion of PARs received medical assistance for mental/behavioral disorders, followed by that for cardiovascular disorders [8].

In Japan, there are public health nurses (PHNs) who support the health of community residents including people in poverty. The PHN, defined in the Act on PHNs, Midwives, and Nurses as the governing law, is a health professional. People, basically nurses, who have completed courses related to public health nursing and passed the national examination are certified as PHNs. The Quad Council of Public Health Nursing Organizations of the American Public Health Association defines public health nursing as, “An activity to promote the health of groups of people and their protection, based on a knowledge in nursing, sociology, and public health” [9]. PHNs are also required to be able to identify health problems in the community and develop measures for health promotion. As administrative service providers, PHNs can respond to health, or social, problems faced by PARs living in the community and provide them with health support.

As middle-aged recipients of public assistance often have difficulty gaining employment, few of them have opportunities to undergo regular health check-ups in workplaces. When they become ill, they are provided with medical assistance under the public assistance system. People with psychological or other problems may receive support from PHNs. However, when the health of PARs is discussed from the viewpoint of preventive care, problems can still remain in the fields of health promotion (primary prevention) and support for the prevention/early identification of disorders (secondary prevention).

A summary of previous studies on the health support provided for PARs is as follows: A previous study using SF-8 [10] suggested that the health-related (HR) (physical and psychological) QOL of middle-aged recipients of public assistance is significantly lower than that of the general public, and that it is necessary to provide appropriate health information available in the community and support related to nutrition and rest to increase the HRQOL [11]. A previous study on the health behaviors of middle-aged recipients of public assistance living at home found that their smoking rate was high; there were few normal-weight

subjects and most were obese or thin; and they, even those with hypertension or other disorders, had not developed healthy behavior [12]. Furthermore, a larger number of PARs suffered from alcoholism and other addictions, compared to general community residents [13], and they required careful support because most of them were single and had limited social networks [14]. According to the results of these previous studies, the health conditions of PARs are worse than those of other people, and their problems, such as addiction, are more difficult to resolve.

No studies have been conducted to examine the status of support provided for PARs by municipal PHNs, as well as their awareness of this issue, although there have been some related studies: a qualitative study on the function of public health nursing was discussed based on examples of the activities of PHNs assigned as public assistance counselors [15] and a study on the skills of PHNs working in welfare offices to support people in poverty [16].

The following findings were obtained: there has been an increase in the number of PARs – particularly households including middle-aged recipients classified into the “Other” group; the HRQOL and health conditions of PARs are poorer than those of other people, and measures for lifestyle-related diseases should be implemented; there are problems in relation to health measures for PARs; and few studies have been conducted on the activities of PHNs for PARs. The present study, involving municipal PHNs, aimed to examine the relationship between health problems faced by middle-aged recipients of public assistance living at home and PHNs’ awareness, and to help develop measures to improve health support for PARs.

## 2. Methods

### 2.1. Subjects

The subjects were 512 PHNs working in a prefecture as of May 1, 2011. Mayors from 21 of the 27 municipalities in this prefecture consented to participate in the study, and survey forms were distributed to them. The subjects were all PHNs in the 21 municipalities, excluding those who had taken a leave of absence such as childcare leave.

### 2.2. Survey methods

An anonymous self-completed questionnaire survey was conducted between February and March 2012. The municipalities were asked to distribute survey forms to the PHNs, and they sent back the forms directly to the university by mail.

### 2.3. Questionnaire

Survey items included the basic attributes of PHNs (scale of the municipality in which they worked, age, years of experience as PHNs, and highest level of academic background in their specialty), specific health support provided for PARs, PHNs’ awareness of health problems faced by PARs and health support for them, and difficulty providing support.

Cities and towns in which the PHNs work were classified into three groups according to the scale of the municipality: (1) government-ordinance-designated cities with a population of more than 500,000 and urban cities with a population of more than 300,000, (2) cities that have not been designated, and (3) towns and villages with a small population. Academic backgrounds in nursing were classified into graduate schools, university, specialties in junior colleges, and technical colleges.

PHNs were asked whether or not they had experience of providing PARs with health support, regardless of their age. PHNs who had provided health support were then asked whether or not they had experience of visiting the homes of patients with psychiatric disorders, collaborating with other professionals to implement case studies, and conducting total health management for PARs, including the development of approaches to help them consult physicians and understand their health conditions. The present study aimed to examine PHNs’ awareness of health problems faced by middle-aged recipients of public assistance living at home, based on previous studies [12]. A survey including the following ten items was conducted:

QOL scores related to physical and psychological health, smoking, drinking, obesity, excessive thinness, the ability to obtain health information and understand municipal health information, frequency of undergoing regular health/cancer examinations, and awareness of the activities of PHNs. PHNs were asked to choose from five answers for each question: (A public assistance recipient has) “many”, “a few”, “few”, “no problems”, and “no stated problem”.

Another survey was also conducted to examine their awareness of health support provided for middle-aged recipients of public assistance living at home. PHNs chose from four options, including “Definitely yes” and “Definitely no”, to answer each question. PHNs were also asked whether or not they had difficulty coping with middle-aged recipients of public assistance living at home, as well as the reasons. PHNs who had difficulty were then asked whether or not they experienced the following seven problems: having difficulty collaborating with case workers; no information on health problems faced by PARs is available; no budget is allocated despite its necessity; there is no time because PHNs are busy; other tasks should be prioritized; persons in charge of public assistance have been appointed; and there are no opportunities to discuss the problems (multiple answers allowed).

#### *2.4. Ethical considerations*

Written requests, including the purpose of the survey and an explanation that participants in the study are allowed to withdraw from it at any time, were sent to municipalities to obtain their written consent. We asked the persons in charge of municipalities to distribute the survey forms to individual PHNs, and PHNs who had consented to the study sent them back to the university. The survey was conducted with the approval of the ethics committee of Kawasaki University of Medical Welfare (Approval number: 312).

#### *2.5. Data analysis*

PHNs were divided into two groups according to the level of awareness of health problems faced by middle-aged recipients of public assistance living at home. PHNs who viewed “all” and “three or less” of the 10 items as health problems were classified into “high-awareness” and “low-awareness” groups, respectively. Logistic regression analysis was conducted to examine the relationships between the level of awareness as a dependent variable and survey items. Logistic regression analysis using the forced entry method was also conducted, with related dependent variables and PHNs’ workplaces as adjusted variables. Odds ratios between factors influencing the awareness of health problems and the 95% confidence interval were calculated. The significance level of the tests was 0.05. For statistical analysis, IBM SPSS Ver.21.0J for Windows was used.

### **3. Results**

A total of 353 PHNs in 21 municipalities in the prefecture consented to participate in the study, and survey forms were distributed to 326 of them, excluding those who had taken a leave of absence such as childcare leave. The number of collected forms was 215 (66.0%). A total of 206 (63.2%) PHNs, whose answers to all questions were appropriate and relevant, were analyzed.

#### *3.1. Attributes of public health nurses*

Table 1 shows the attributes of the municipal PHNs. The mean age was  $40.3 \pm 10.1$  years old. The mean period of experience of working as a PHN was  $16.8 \pm 10.2$  years. Regarding the highest level of their academic background, 63 (30.6%) PHNs had graduated from graduate schools or universities, 23 (11.2%) from special programs in junior colleges, and 120 (58.3%) from technical colleges, which accounted for the largest proportion of the total.

#### *3.2. Experience of providing health support for public assistance recipients*

A survey was conducted to examine whether the PHNs had provided health support for middle-aged

Table 1 Attributes of public health nurses and their experience of providing support for recipients (n=206)

Items	n (%)
Cities and towns as work places	
Designated and major urban cities	56 (27.2)
Cities that have not been designated or are not urban cities	126 (61.2)
Towns and villages with a small population	24 (11.7)
Age (mean $\pm$ SD)	40.3 $\pm$ 10.1
Experience as public health nurses (mean $\pm$ SD) (years)	16.8 $\pm$ 10.2
Highest academic background in specialty	
Graduate school	7 (3.4)
University	56 (27.2)
Specialty in junior college	23 (11.2)
Technical college	120 (58.3)
Experience of providing health support for public assistance recipients	
Yes	179 (86.9)
No	27 (13.1)
Types of health support provided for public assistance recipients <sup>a</sup>	
Experience of home visits	
People with mental disorders	146 (81.6)
Elderly	97 (54.2)
People with intellectual disorders	63 (35.2)
People with physical disorders	46 (25.7)
Tuberculosis	27 (15.1)
Experience of collaboration	
Examples of public assistance recipients	84 (46.9)
Collaboration with case workers in charge of public assistance	154 (86.0)
Collaboration with social workers	103 (57.5)
System for the total health management of public assistance recipients	
Experience of providing support	43 (24.0)

<sup>a</sup> : There were 179 public health nurses who had experience of providing health support for public assistance recipients

and other PARs. A total of 179 (86.9%) PHNs had experience of providing health support. On the other hand, 35.9% of PHNs in their 20s, 11.7% in their 30s, 5.3% in their 40s, and 6.0% in their 50s or older had no experience. Table 1 shows the results of a survey involving PHNs with experience of providing health support. The homes of patients with psychiatric disorders were visited by 146 (81.6%), or the largest percentage, of PHNs, and the elderly were visited by 97 (54.2%) PHNs. Regarding the experience of collaborating with other health professionals, 86.0 and 57.5% of PHNs had collaborated with case and social workers, respectively. The total health management of PARs, including the development of approaches to help them consult physicians and understand their health conditions, had been experienced by 24.0% of the PHNs.

### 3.3. Awareness of health problems faced by middle-aged recipients of public assistance

Table 2 shows PHNs' awareness of health problems faced by middle-aged recipients of public assistance. The majority of PHNs viewed all items as health problems for the recipients. In particular, more than 80% of PHNs identified the following health problems: QOL score related to psychological health, drinking, QOL score related to physical health, the ability to obtain health information, and smoking (in this order).

The number of items viewed as health problems by the PHNs is the following. A total of 63 (30.6%) PHNs viewed all of the ten items as health problems; 122 (59.2%) PHNs considered four to nine items and 21 (10.2%) PHNs considered zero to three items as problems.

PHNs were divided into two groups: PHNs who viewed "all of the ten" or "three or less" items as problems, and logistic regression analysis was conducted to examine the relationships between their awareness and the items (Table 3). PHNs' awareness was not significantly correlated with their age, years of experience as a PHN, and highest academic level in their specialty. Their awareness was also not significantly correlated with their experience of providing support for PARs. Regarding specific support, the number of PHNs with experience of collaborating with social workers and a high awareness of health problems was 3.1 times higher than those without such experience.

PHNs whose awareness of health problems was high had the following views about the health support to PARs: PHNs should support PARs even if they receive welfare services; it is necessary to provide those people with special support even if they receive community support; it is important to understand the health needs of middle-aged recipients of public assistance; and PHNs should become involved in health support activities for middle-aged recipients of public assistance more actively; there were significant correlations between their awareness and their views.

Logistic regression analysis using the forced entry method was conducted, with related dependent variables and two groups of municipalities (nurses' workplaces) as adjusted variables. For the analyses, the PHNs were also divided into two groups according to the scale of the municipalities in which they worked. The awareness of health problems was high in more than 80% of the PHNs in government-ordinance-designated and major urban cities and towns, and less than 70% of those in other municipalities. There were significant differences in the awareness for three items between the two groups; the number of PHNs in the former group (government-ordinance-designated and major urban cities and towns) with a high awareness of health problems was approximately 13.4 times higher. The number of PHNs with a high awareness of health problems who had collaborated with social workers was approximately 4.4 times higher. The number of PHNs in the high-awareness group who recognized that it was necessary to understand the health needs

Table 2 Public health nurses' awareness of health problems faced by the middle-aged living at home who receive public assistance (n=206)

Items	Public health nurses' awareness <sup>a</sup>		n (%)
	Problem	No problem	No idea
QOL related to physical health	170 (82.5)	12 (5.8)	24 (11.7)
QOL related to psychological health	190 (92.2)	2 (1.0)	14 (6.8)
Smoking	165 (80.1)	11 (5.3)	30 (14.6)
Drinking	180 (87.4)	6 (2.9)	20 (9.7)
Obesity	135 (65.6)	32 (15.5)	39 (18.9)
Excessively thin	109 (52.9)	56 (27.2)	41 (19.9)
Ability to obtain health information	167 (81.1)	21 (10.2)	18 (8.7)
Ability to understand health information provided by municipalities	161 (78.2)	23 (11.2)	22 (10.7)
Rate of undergoing health check-ups/cancer examinations	161 (78.2)	22 (10.7)	23 (11.2)
Informed of the activities of public health nurses	137 (66.5)	44 (21.4)	23 (11.2)

<sup>a</sup> : Problem ("Yes" and "Mostly yes"), No problem ("Mostly no" and "No")



Table 3 Factors related to differences in public health nurses' awareness of health problems (n=84)

Items	awareness of health problems <sup>a</sup>		Odds ratio <sup>b</sup>	p	Odds ratio <sup>c</sup>	p
	High n=63	Low n=21				
Cities and towns as work places						
Designated and major urban cities and towns	17 (85.0)	3 (15.0)	1.00		13.4 (2.05-87.34)	**
Towns and villages with a small population	9 (90.0)	1 (10.0)	1.59 (0.14-17.56)			
Cities that have not been designated or are not urban cities	37 (68.5)	17 (31.5)	0.38 (0.10-1.49)			
Age group						
20-29 years old	11 (73.3)	4 (26.7)	1.00			
30-39 years old	16 (80.0)	4 (20.0)	1.46 (0.30-7.09)			
40-49 years old	19 (73.1)	7 (26.9)	0.99 (0.24-4.15)			
50 years or older	17 (73.9)	6 (26.1)	1.03 (0.24-4.50)			
Experience as public health nurses (years)						
3 years or shorter	11 (78.6)	3 (21.4)	1.00			
4 to 10 years	9 (75.0)	3 (25.0)	0.82 (0.13-5.08)			
11 to 20 years	17 (73.9)	6 (26.1)	0.77 (0.16-3.75)			
21 to 30 years	18 (72.0)	7 (28.0)	0.70 (0.15-3.29)			
31 years or longer	8 (80.0)	2 (20.0)	1.09 (0.15-8.12)			
Highest academic background in specialty						
Technical college	35 (71.4)	14 (28.6)	1.00			
Major in junior college	11 (84.6)	2 (15.4)	2.20 (0.43-11.22)			
Universities/graduate schools	17 (77.3)	5 (22.7)	1.36 (0.42-4.40)			
Experience of providing PARs with support						
No	11 (68.8)	5 (31.3)	1.00			
Yes	52 (76.5)	16 (3.5)	1.48 (0.45-4.89)			
Types of support						
Home visits to people with mental disorders						
No	26 (74.3)	9 (25.7)	1.00			
Yes	37 (75.5)	12 (24.5)	1.07 (0.39-2.90)			
Home visits to people with intellectual disorders						
No	45 (75.0)	15 (25.0)	1.00			
Yes	18 (75.0)	6 (25.0)	1.00 (0.34-2.98)			
Home visits to people with physical disabilities						
No	48 (73.8)	17 (26.2)	1.00			
Yes	15 (78.9)	4 (21.1)	1.33 (0.39-4.56)			
Examination of case examples						
No	38 (70.4)	16 (29.8)	1.00			
Yes	25 (83.3)	5 (16.7)	2.11 (0.68-6.48)			
Collaboration with case workers						
No	20 (80.0)	5 (20.0)	1.00			
Yes	43 (72.9)	16 (27.1)	0.67 (0.22-2.09)			
Collaboration with social workers						
No	28 (65.1)	15 (34.9)	1.00			
Yes	35 (85.4)	6 (14.6)	3.13 (1.07-9.10)	*	4.36 (1.04-18.27)	*
System of the total health management of PARs						
No	52 (72.2)	20 (27.8)	1.00			
Yes	11 (91.7)	1 (8.3)	4.23 (0.51-34.93)			
PHNs' awareness of health support <sup>d</sup>						
PHNs should be involved in support for PARs, even if they have been receiving welfare services.						
No	13 (56.5)	10 (43.5)	1.00			
Yes	50 (82.0)	11 (18.0)	3.50 (1.22-10.01)	*	1.64 (0.38-7.15)	
PHNs should be involved in support for PARs, even if they have been receiving medical services.						
No	13 (61.9)	8 (38.1)	1.00			
Yes	50 (79.4)	13 (20.6)	2.37 (0.81-6.91)			
PARs require special support in addition to that from the community.						
No	19 (57.6)	14 (42.4)	1.00			
Yes	44 (86.3)	7 (13.7)	4.63 (1.61-13.30)	**	2.23 (0.57-8.71)	
As a PHN, I am aware of the health needs of the middle-aged who receive public assistance.						
No	43 (69.4)	19 (30.6)	1.00			
Yes	20 (90.9)	2 (9.1)	4.42 (0.94-20.83)			
It is necessary to understand the health needs of middle-aged PARs.						
No	9 (40.9)	13 (59.1)	1.00			
Yes	54 (87.1)	8 (12.9)	9.75 (3.15-30.14)	***	9.63 (1.31-70.78)	*
PHNs should provide support for the middle-aged PARs, even when they are busy.						
No	39 (70.9)	16 (29.1)	1.00			
Yes	24 (82.8)	5 (17.2)	1.97 (0.64-6.07)			
PHNs in municipalities should be more actively involved in support for the middle-aged PARs.						
No	19 (54.3)	16 (45.7)	1.00			
Yes	44 (89.8)	5 (10.2)	7.41 (2.37-23.15)	**	3.02 (0.55-16.70)	

Two-way logistic regression analysis: \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

<sup>a</sup>: Regarding the level of awareness of health problems, when public health nurses recognized all of the ten items as problems to be addressed, their awareness was determined to be "high". If they viewed three or fewer items as problems, their awareness was determined to be "low".

<sup>b</sup>: Crude odds ratio

<sup>c</sup>: Work-place-adjusted odds ratio (designated and major urban cities and towns / other municipalities) - the forced injection method

<sup>d</sup>: Regarding awareness of health support, "Yes" and "Mostly yes" were regarded as "Yes", and "Mostly no" and "No" were regarded as "No".

of PARs was approximately 9.6 times higher than that in the low-awareness group.

A total of 142 (69.0%) public health nurses stated that it was difficult to provide middle-aged recipients of public assistance with health support for the following reasons: other tasks should be prioritized 80 (56.3%); PHNs are very busy 59 (41.5%); no information on health problems faced by PARs is available 55 (38.7%); and there are no opportunities to discuss their problems 45 (31.7%).

#### 4. Discussion

Approximately 90% of municipal PHNs had experience of providing PARs with support, and over 80% had visited the homes of patients with psychiatric disorders or collaborated with case workers in charge of PARs. However, there were no correlations between their awareness of health problems faced by middle-aged recipients of public assistance, the age of PHNs, years of experience as PHNs, and whether or not they had provided the recipients with support. Regarding municipalities, whereas approximately 90% of the PHNs working in government-ordinance-designated and major urban cities and towns were markedly aware of health problems, only about 70% of those in other municipalities were aware of them. The awareness of health problems was compared between the two groups, and it was significantly lower in the PHNs working in municipalities other than government-ordinance-designated and major urban cities. This was presumably because most of those cities are major urban areas, and there are large numbers of people requiring public assistance. Although the number of people requiring public assistance in small towns and villages is smaller, it is easier for PHNs, who live closer to community residents, to identify the needs of PARs, which may influence their awareness of health problems faced by them. To identify the causes of the findings, it is necessary to conduct further studies to compare the activities of PHNs and specific support provided for PARs based on the size of municipalities.

Regarding the awareness of health problems faced by middle-aged PARs, the number of PHNs with a high awareness who recognized that it was necessary to understand their health needs was approximately 9.6 times larger than those with a low awareness. There was also a significant correlation between the awareness and experience of collaborating with social workers. Problems in basic education for PHNs have been pointed out, and various programs have been developed. However, most programs include training sessions for newly recruited and mid-career PHNs, and assessment studies based on the years of experience have been conducted [17, 18]. A previous study involving Japanese PHNs examined the relationship between the level of their skills and workplaces [19], and suggested that the level of their skills was correlated with their workplace, position, and academic background. Studies on education for PHNs suggest that PHNs should undergo specialized education, in addition to basic undergraduate education. Japanese legislative policies place no emphasis on health support for middle-aged recipients of public assistance, and their HRQOL is significantly lower than the mean for the general population [11]. The survey results suggest that PHNs' awareness was closely related to the area in which they work and their experience of collaborating with social workers, instead of their age and years of experience. It is necessary to implement education for both newly recruited and mid-career PHNs so that they will be able to provide the same level of services in all areas.

The medical system reform in 2008 positioned the promotion of measures for lifestyle-related diseases as an important task for Japan [20]. Under the revised system, health care insurers are required to conduct specific health examinations and provide specific health care guidance, and outcome and other general assessments have been conducted. However, regarding public assistance recipients who cannot afford medical insurance, only 27.7% underwent municipal health check-ups in the past [12], which is lower than the results of the National Livelihood Survey; 71.8% of those aged 40 to 64 years old underwent health check-ups in 2010 [21]. Furthermore, public assistance recipients had many problems: there were a number of smokers; few were of normal weight; and even those with hypertension or other disorders had not developed healthy behavior [12]. To reduce the incidence of lifestyle-related diseases, it is necessary to increase the rate of public assistance recipients undergoing health check-ups and consulting physicians.



Regarding specific health support for PARs, 24.0% of health nurses improved approaches for conducting health check-ups and management. However, it is difficult to conduct assessment only based on those values because a number of specific tasks are assigned to different PHNs and some less experienced PHNs may not have performed some of the tasks. Different from specific health check-ups conducted based on the laws related to the implementation of health care for the elderly, outcomes of regular health examinations conducted based on the Health Promotion Act are not assessed. This means that PHNs without a proper perspective and ability to take actions may miss opportunities for the early identification of disorders in PARs. For promotion of the health of PARs, PHNs should discuss health support measures, including health check-ups, with case workers in charge of public assistance.

As studies in Japan and other countries have identified social factors influencing health [22, 23], it has become necessary to improve the health behavior of the socially and economically vulnerable and develop public health policies as intervention measures. Previous studies [24, 25] suggested that health disparities in specific social classes were not reduced over generations, and a study conducted by Strine et al., (2008) reported that a lack of social support causes a reduction in the HRQOL [26]. Even if advanced technologies are developed, disadvantaged people without access to them cannot benefit from their effects. To address their health problems, it is more important to remove obstacles to the use of technologies and access to them, or socio-economic factors, rather than to develop new medical technologies [27]. It is essential for PHNs to promote the health of PARs, a foundation of their activities, by developing healthy environments for them. Even if middle-aged PARs receive welfare services or support from community residents, it is also necessary for PHNs to have a vision for the future and provide them with health support, focusing on preventive care to increase their QOL.

On the other hand, approximately 70% of PHNs had difficulty providing support for recipients of public assistance. Community residents at various stages of life, including infants and the elderly, are faced with a number of high-priority health problems. This may be the reason that support has not been provided for PARs. Since PHNs can influence the community as nursing care specialists, they should be sensitive to socio-economic changes including an increase in the number of recipients of public assistance. Both health and welfare approaches should be adopted to address the health problems of middle-aged recipients of public assistance. Support is necessary not only for individuals but for groups. A survey conducted by Marutani [16], involving four public health nurses working in welfare offices as counselors in charge of public assistance, suggests support skills required for public health nurses: “individual” and “other” support skills to “provide specific advice on health management and help the recipients develop self-care ability according to their conditions” and “develop approaches in the health division to support people in poverty continuously”, respectively. These are support skills essential for PHNs working in welfare offices. However, PHNs are not assigned to welfare offices in most municipalities, which can secure only limited human resources due to time and other restrictions. To address these problems, group support should also be provided for recipients of public assistance as the first step, including outreach activities, which are necessary to support their health, in addition to the existing measures for the promotion of their health.

The present study has the following limitations: The results of the survey, which only involved municipalities in one prefecture, do not represent the attitudes and views of PHNs in cities and towns nationwide. As the survey was only based on PHNs’ self-assessment, it is difficult to correctly determine whether or not they should provide support for middle-aged PARs. Further studies involving PHNs in many different areas across Japan should be conducted to examine and assess the relationship between their activities and the size of their workplace. It is also necessary to develop a program to help PHNs in municipalities provide support for recipients of public assistance.

## 5. Conclusion

The following PHNs recognized that middle-aged PARs are faced with a number of health problems: PHNs who: work in government-ordinance-designated and major urban cities and towns; collaborate with

social workers; and consider that the health needs of PARs should be understood. On the other hand, PHNs' awareness was not correlated with their age, years of experience, and whether or not they had experience of providing PARs with support. The awareness of health support for middle-aged PARs was low in some PHNs, presumably because they prioritized other tasks or were busy.

It is an important task for PHNs who are involved in administrative services to reduce health disparities. It is important to understand the needs of PARs and other people in poverty in relation to their health problems, and to work together with other welfare workers as a team to develop approaches to encourage the socially vulnerable, who tend to be stigmatized, to participate in health activities independently. Health support for PARs and other people in poverty is expected to promote health in the entire community and reduce differences in the level of health among community residents. It is necessary to implement education with an emphasis on the socially vulnerable and improve the skills of PHNs working in municipalities by providing them with support.

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