

A Practical Care Guide for Public Health Nurses Responding to Article 24 Notifications¹⁾

Yukari MAENO^{*,**} and Yoko HATONO^{**}

The objectives of this study were to develop a practical care guide for public health nurses responding to police notifications under Article 24 notifications, and to assess the guide's reliability and validity.

We interviewed experienced PHNs and analyzed the findings to draft a list of care indicators. These indicators were an amended list of 55 care items. We prepared a self-administered survey questionnaire containing these 55 items, and distributed it to PHNs in charge of responding to Article 24 notifications.

Exploratory factor analysis (EFA) resulted in the selection of 31 items and 5 factors. The goodness of fit of the hypothetical model was verified using confirmatory factor analysis (CFA). In reliability, internal consistency was confirmed with a Cronbach's α value of 0.95, and stability was confirmed using the test-retest method. Criterion-related validity was assessed by looking at the correlation with "PHN confidence in ability", etc. As a result, a positive correlation was observed ($p < 0.01$). Examination of constructive concept validity revealed that the group of respondents with more years of experience obtained higher care guide scores.

The study findings demonstrated that the practical care guide that we developed for use by public health nurses is both reliable and valid.

key words: public health nurses, Article 24 notifications, practical ability, care guide

Introduction

According to the 'Report on Public Health Administration and Services (1999–2011)' released by Japan's Ministry of Health, Labour and Welfare (MHLW), the number of notifications made by police under Article 24 of Japan's Mental Health and Welfare Act ("Article 24 notifications") has risen sharply since the act was amended. Specifically, there were 5,245 notifications in 1999 when the act was amended, and in 2011 this had increased 2.4 times to 12,575 notifications.

A high percentage (77.4%) of Japan's public health centers are engaged in handling these notifications, with public health nurses (PHNs) playing a core role.

Responding to an Article 24 notification typically involves compulsory government intervention, including sending the subject to a psychiatric clinic or

department for involuntary evaluation or hospitalization. It is therefore essential that the response be carried out in a prudent and proper manner. Subjects being held in police custody often experience strong feelings of anxiety and frustration; therefore, a swift and appropriate response is also crucial.

Moreover, subjects manifesting acute psychiatric symptoms who are at risk of self-harm, subjects who have serious issues with family members or neighbors, subjects with drug/alcohol dependency, and subjects with personality disorders often engage in dangerous behavior immediately prior to the Article 24 notification, so expert counseling and support skills are critical (Takaoka, 2008).

Responding to Article 24 notifications also involves assessing the risk level to both the subject and his/her family, and conducting an initial intake interview and intervention. Fukuda, Saito, Yanagisawa, Nagae & Sakai (2002) assert that these intake in-

¹⁾ This study is part of a doctoral thesis in the Department of Health Sciences, Graduate School of Medical Sciences, Kyushu University, and was supported by the Grant-in-Aid for basic research program(C) of 2012 to 2013 (Basic research project no. C24593442)

* Department of Health Sciences, Nursing Course, Kyushu University Graduate School of Medical Sciences Maidashi, Higashi-ku, Fukuoka-shi, Fukuoka 812–8582, Japan

** Kyushu University Graduate School, Faculty of Medical Sciences

interviews and the processes immediately thereafter are particularly important and complex parts of the overall support process. Additionally, Niimura & Kashiwagi (2003) point out that interactions with the subject during the initial intervention have an effect on subsequent outcomes, so the first attempt to identify the key issues, the approach taken, and the support skills of the PHNs are all essential factors. In light of these findings, the response of PHNs to Article 24 notifications could be seen as crucial in delivering ongoing support to subjects and their families.

There has been considerable research on topics related to involuntary hospitalization, including involuntary psychiatric evaluation, nursing care of committed patients, and the personality traits of individuals subject to Article 24 notifications. However, little is known about the care that PHNs provide to subjects and family members from the time they respond to an Article 24 notification until the time of psychiatric evaluation. This means that PHNs must leverage their own abilities in deciding how to provide care (Maeno & Hatono, 2013). This need for self-reliance among PHNs is a major issue from the perspective of ensuring quality care.

Looking overseas, the United Kingdom (UK) has a code of practice for mental health professionals conducting mental health assessments prior to involuntary commitment (Brown, 2013) but does not stipulate how to care for committed or “sectioned” patients. There are also major systematic differences between the United Kingdom and Japan, where PHNs are solely responsible for the preliminary assessment and transfer of subjects. This implies that the UK model is not adaptable to Japanese care guidelines.

With this in mind, the present study sought to develop a practical care guide for PHNs responding to Article 24 notifications, and to assess the guide’s reliability and validity.

Terminology

The phrase “care in response to Article 24 notifications” is defined as: care performed by PHNs from the time that an Article 24 notification is lodged until completion of an involuntary psychiatric evaluation, with the aim of providing suitable treatment to mentally disabled individuals to expedite their release from hospital and their reintegration into society.

Methods

1. Drafting practical guidance for PHNs to respond to Article 24 notifications

1) Selecting indicators

We conducted a semi-structured interview of 9 PHNs with experience in responding to Article 24 notifications. The targeted PHNs were all well versed in responding to these notifications, and were recommended by the public health administrator of their respective local governments, in addition to possessing at least 20 years of PHN experience. A verbatim record of the interview was taken, from which narratives on the types of care provided when responding to Article 24 notifications was then extracted, and categorized according to content. As a result, 57 relevant items were identified. These items were then repeatedly examined and revised by a team of researchers to eliminate semantic redundancies. Next, the items were scrutinized to ensure that they addressed all conceivable aspects of Article 24 notification responses based on cited (Takaoka, 2008), resulting in the formulation of a draft guide consisting of 55 care items.

2) Review of content validity and draft revision

The research team consisted of 3 university professors engaged in research on PHN operations who also possessed empirical knowledge of Article 24 notification responses, and 1 PHN who was the lead author of an article on mental health published in a public health journal. The research team was asked to complete a paper-based survey questionnaire asking about the appropriateness of the draft guide and soliciting their expert advice. The respondents were asked to rate each of the care items in the draft guide in terms of legibility, comprehensibility, feasibility, and importance by selecting a score of 1 to 4 (with 1 being “entirely inappropriate” and 4 being “appropriate”), and to make an overall assessment of the guide in an open response. Care items that received scores of 1 to 3, indicating lack of appropriateness, were then reviewed and amended by the research team based on their written advice, resulting in the creation of an amended practical care guide for use by PHNs when responding to Article 24 notifications (herein “55-item care guide”).

2. Surveys

Two surveys were conducted to determine the reliability and validity of the care guide. The first survey

undertook exploratory analysis and confirmatory factor analysis, and examined internal consistency and reliability. The second survey targeted PHNs in charge of responding to Article 24 notifications and sought to confirm the repeatability of the care guide developed in the first survey using the test-retest method.

■ Survey 1

1) Respondents

The survey respondents were PHNs charged with responding to Article 24 notifications at 494 public health centers around Japan (excluding Iwate, Miyagi and Fukushima Prefectures, which were devastated by the Great East Japan Earthquake, and Tokyo Metropolis, where PHNs are not involved in responding to Article 24 notifications).

To ascertain the number of PHNs responsible for responding to Article 24 notifications, a brief questionnaire was mailed to the mental health and welfare offices of public health centers around the country. Centers that did not respond by mail were contacted directly by telephone. In total, the survey targeted 842 respondents.

2) Survey method

The survey was conducted using an anonymous self-administered questionnaire sent via the post.

The survey was sent in a return envelope to the mental health and welfare office of public health centers around Japan, and consisted of a questionnaire form and a letter requesting that the questionnaire be distributed to PHNs in charge of responding to Article 24 notifications. The completed questionnaire was then to be returned to the research team in the return envelope. A postcard was also sent as a reminder to return the completed questionnaire prior to the deadline.

The survey was conducted between February and March of 2012.

3) Survey details

The survey comprised 3 external criterion items examining the respondent's professional attributes, the 55-item care guide, and criterion-related validity (herein "3 criterion-related items").

Attributes were investigated by asking about the respondent's years of experiences as a PHN, years of experience as a mental health worker, years of experience in responding to Article 24 notifications, and number of responses to Article 24 notifications.

The 55-item care guide was examined by asking the PHNs to assess the importance of their role with

respect to each of the 55 items, and the extent to which they performed the care item when responding to Article 24 notifications (herein "degree of implementation"). When ranking importance, respondents were asked to choose either "Important" or "Not important". Degree of implementation was scored from 0 to 4, with 0 being "Never", 1 being "Seldom", 2 being "Sometimes", 3 being "Often" and 4 being "Always".

The 3 criterion-related items could not be linked to practical PHN care in response to Article 24 notifications using an existing scale. Therefore, based on the assumption that PHNs perceive the care that they provide in terms of how it affects their future interaction or involvement with the subjects and their family members, the following two items were selected: "Do you think your response to Article 24 notifications affects your future involvement with the subject?" (herein "*Effect on future involvement with subject*") and "Do you think your response to Article 24 notifications affects your future involvement with the subject's family?" (herein "*Effect on future involvement with subject's family*"). Furthermore, because previous studies have demonstrated a link between the level of confidence that PHNs have in the performance of their duties and the level of practical expertise that they possess (Saeki, Izumi, Uza, Takasaki, 2004; Saeki, Izumi, Uza, Takasaki, 2003; Iwamoto, Okamoto, Shiomi, 2008), the item "Are you confident in your ability to respond to Article 24 notifications?" (herein "*Confidence in responding to Article 24 notifications*") was added. Respondents were asked to assess the 3 criterion-related items by assigning a score of 1 to 10.

4) Analyses

First, care items were analyzed according to importance by finding the ratio of respondents who replied that an item was "Important"; items with a ratio below 80% were excluded. Next, degree of implementation was used to identify items for exclusion by investigating floor and ceiling effects based on the mean and standard deviation, correlation between items, item-total correlation analysis (ITCA), and good-poor analysis (GPA). In GPA, the differences between the means of each item in the group occupying the first quartile of 55-item care guide scores (i.e., the upper 25%) and in the group occupying the fourth quartile of 55-item care guide scores (i.e., the lower 25%) were compared using a

t-test, with items that were not statistically significant being excluded.

The arranged items were then subjected to principle component analysis (PCA) and, after confirming that all items had a high loading on the first principal component (≥ 0.4), exploratory factor analysis (EFA) was performed using the principal factor method and promax rotation. The following selection criteria were used to determine the number of factors: (1) eigenvalue ≥ 1 ; (2) item factor loading ≥ 0.4 ; and (3) absence of ≥ 0.4 loading on multiple factors. These findings were then used to select the items and factors. After minimizing the number of items using communality, the identified factors were then named based on item content.

The adopted factor structure was then subjected to confirmatory factor analysis (i.e., covariance structure analysis).

Reliability was determined by examining internal consistency using Cronbach's alpha.

Criterion-related validity was tested by finding the correlation coefficient between the care guide scores and 3 criterion-related items. Next, the known group method was used to classify the respondents into the following 4 groups based on years of experience as a mental health worker and years of experience in responding to Article 24 notifications: (1) entry level (1 to 5 years); (2) junior mid-level (6 to 10 years); (3) senior mid-level (11 to 20 years); and (4) veteran (≥ 21 years). The mean differences in each group's total care guide scores and individual factor scores were then compared.

The above analyses were performed using SPSS20J for Windows and AMOS software with a two-sided significance level of 5%.

■ Survey 2

The second survey investigated stability using the test-retest method. The survey population consisted of 35 consenting PHNs responsible for responding to Article 24 notifications in 3 municipalities. The survey was conducted over a 2-week period in April 2012. Spearman's correlation coefficient was calculated for the first and second scores, and the result was taken as the reliability coefficient.

3. Ethical Considerations

This study was conducted with the approval of the Kyushu University Graduate School of Medical Sciences' ethical review board (approval no. 23-145). The questionnaire used an anonymous format. Re-

spondents were informed in writing about the objectives, outline and significance of the study, their option to freely withdraw from the study at any time, the measures taken to protect their privacy, the handling and disposal of collected data, the possibility that the study findings may be made public at academic meetings and other venues, and the contact details of the researchers. Those respondents who completed the questionnaire were deemed to have provided their informed consent to participate in the study.

Results

■ Survey 1

1. Summary of survey respondents

A total of 542 questionnaires were collected (64.4% return rate), of which 432 questionnaires contained responses to all of the 55 care guide items (51.3% effective response rate). These effective responses were therefore used for analysis.

The key attributes of the respondents are average PHN experience was 20.4 ± 10.2 years, average mental health care experience was 9.9 ± 8.3 years, and average experience in involuntary procedures was 5.6 ± 5.4 years. The median number of involuntary procedures handled was 15 (minimum of 1 and maximum of 280), with 30.1% of the respondents having handled fewer than 10 cases.

2. Developing the activity index

1) Item analysis

The proportion of respondents who identified care items as "Important" ranged from 70.1% to 95.5%, and 39 items were categorized as important by $\geq 90\%$ of respondents. The 3 care items that were seen as important by less than 80% of the surveyed PHNs (i.e., items 37, 38, and 45) were eliminated.

The average score for degree of implementation was 3.31 ± 0.92 , the average score range for each item was 1.8 to 3.79, and the average standard deviation was 0.57 to 1.62. The ceiling effect was observed in 51 items, indicating that the respondents actually performed these items when delivering care. The floor effect was not seen in any care items.

The inter-item correlation was at least $r = 0.7$ for 6 pairs of items (items 1 and 2, 1 and 3, 2 and 3, 17 and 18, 29 and 30, and 54 and 55). The research team then considered the semantic content of the paired items and retained those items which included the content of the other member of the pair, re-

sulting in the further elimination of 2 items (i.e., 17 and 30). Items 1, 2, 3, 54 and 55 were retained because their content was not similar to that of any other items, and would have been difficult to convey properly in a separate item.

The ITCA of each item and the total scores of all other items produced correlation coefficients ranging from 0.43 to 0.74, indicating internal consistency to such an extent that it did not warrant any exclusions.

Similarly, no items were eliminated as a result of GPA because the differences between mean total scores of items in the first quartile group and those in the fourth quartile group were all significant ($p < 0.01$), thus demonstrating distinguishability.

Accordingly, a total of 5 items were excluded, resulting in the creation of the 50-item care guide.

2) Exploratory factor analysis and naming of factors

PCA of the 50-item care guide revealed a high loading on the first principal component of 0.49 to 0.74.

Exploratory analysis was then performed using the principal factor method and promax rotation (Table 1). To determine the number of factors, both 4 and 5 factor structures were analyzed, given that 5 factors produced an initial eigenvalue > 1 for 5 factors, and based on the drop in the scree plot. As a result, a 5-factor, 31-item structure was clearly the optimal solution. The 5 factors were designated and construed as follows: Factor 1 (“*Care with the aim of assessing risk and enabling the subject to regain his/her composure*”): Understanding and assessing the physical, mental, and social conditions of subjects deemed to be at risk, and forming a perspective of future developments while also recognizing the circumstances that necessitated the police custody and communicating with the subjects in a way that encourages them to express themselves. Factor 2 (“*Care with the aim of relieving the subject’s anxiety and enabling him/her to safely attend the involuntary psychological evaluation*”): Taking steps not to further agitate or aggravate the subject given their intense levels of stress and anxiety, and taking precautions to deal with sudden outbursts. Factor 3 (“*Care to facilitate future interventions while the subject is still in police custody*”): Making an effort to provide ongoing care rather than limiting involvement with subjects in police custody to involuntary procedures.

Factor 4 (“*Care to ensure the subject does not become estranged from his/her family*”): Making an attempt to prevent subjects from becoming alienated from family members following the events that led to their being taken into police custody, and attempting to understand the circumstances that led the subjects to become a risk to themselves and others. Factor 5 (“*Collection of objective data to inform decisions on the need for involuntary counseling*”): Reliably ascertaining the subject’s risk of self harm due to psychiatric symptoms given that many of the individuals reported by the police do not need to undergo an involuntary psychiatric evaluation (Takaka, 2008).

3) Confirmatory factor analysis

The hypothetical model formed on the basis of confirmatory factor analysis (CFA) results was subjected to covariance structure analysis (CSA) to determine whether it fit the data (Figure 1). The model assumed a high-order factor structure wherein care provided in response to Article 24 notifications was used as the secondary factor and the 5 above-mentioned factors were the primary factors. The results for goodness-of-fit were as follows: goodness-of-fit index (GFI)=0.823; adjusted GFI (AGFI)=0.795; comparative fit index (CFI)=0.890; and root mean square error (RSME)=0.073. The RMSEA therefore satisfied the ≤ 0.1 criterion. In the goodness-of-fit indices for each model component, all coefficients were statistically significant at ≥ 0.4 .

4) Reliability

Cronbach’s alpha was 0.951 for the entire 5-factor, 31-item care guide, 0.891 for factor 1, 0.877 for factors 2 and 3, 0.886 for factor 4, and 0.909 for factor 5, thereby demonstrating the model’s internal consistency.

5) Validity

i. Criterion-related validity

The relationship between the care guide and the 3 criterion-related items is shown in Table 2.

The 3 items “Effect on future involvement with subject”, “Effect on future involvement with the subject’s family” and “Confidence in responding to Article 24 notifications” were significantly positively correlated with the total care guide score and all subordinate factors. However, “Effects on future involvement with subject” and “Effect on future involvement with the subject’s family” had low correlations with Factor 5 ($r=0.169, 0.131$).

N=432

Table 1 The results of factor analysis (principal factor method, promax rotation)

No.	Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	α	Communality																																																						
Factor 1 "Care with the aim of assessing risk and enabling the subject to regain his/her composure"																																																														
9	Making sure whether a subject can communicate in Japanese or other languages.	0.90	-0.08	0.01	-0.14	-0.01	0.57	0.65																																																						
11	Checking the presence of subject's physical diseases and conducting medical treatment if he/she has it.	0.87	0.11	-0.09	-0.02	-0.11	0.63	0.63																																																						
8	Talking to a subject in a way that accords with his/her personality.	0.85	0.03	-0.02	0.02	-0.13	0.66	0.66																																																						
6	Forecasting subject's medical conditions from his/her words, deeds, and appearances.	0.81	-0.09	-0.07	0.04	0.12	0.891	0.55																																																						
12	Forecasting future development through the checking of the subject's clinical history.	0.47	-0.03	0.15	0.01	0.26	0.40	0.40																																																						
7	Telling a subject that policy protection is thought to be a serious matter.	0.47	0.10	0.10	0.11	-0.14	0.58	0.58																																																						
49	Telling a public health nurse's affiliation and the reason why he/she has come to an interview to a subject.	0.46	-0.08	0.00	0.17	0.30	0.57	0.57																																																						
16	Continuing to observe carefully whether subject's conditions may change.	0.43	0.09	0.12	0.19	0.01	0.43	0.43																																																						
16	Asking a subject about matters necessary for the judgment of compulsory diagnosis.	0.40	0.00	0.13	0.07	0.14	0.62	0.62																																																						
Factor 2 "Care with the aim of assessing risk and enabling the subject to regain his/her composure"																																																														
42	Improving a transfer environment in order to make a subject steer clear of injuries even if he/she behaves violently.	0.17	0.76	-0.06	-0.12	0.05	0.53	0.53																																																						
39	Selecting the best way to tell a subject about how to transfer him/her.	-0.05	0.75	-0.04	0.07	-0.04	0.48	0.48																																																						
36	Asking the police to go with a subject for his/her safe transfer.	-0.10	0.72	0.05	0.10	-0.08	0.877	0.52																																																						
40	Telling a subject that he/she does not have to worry because a public health nurse will go with him/her.	-0.09	0.71	0.06	0.10	-0.01	0.57	0.57																																																						
41	Going with a subject for reassuring him/her.	0.11	0.64	0.12	-0.16	-0.01	0.46	0.46																																																						
35	Preparing to deal with treatment other than compulsory hospitalization.	0.10	0.56	-0.05	0.08	0.13	0.54	0.54																																																						
48	Explaining situations of a subject and his/her family to a doctor.																																																													
Factor 3 "Care to facilitate future interventions while the subject is still in police custody"																																																														
54	Making a public health nurse continue to be in subject's family after his/her protection.	-0.08	-0.10	0.92	0.06	0.02	0.74	0.74																																																						
52	Asking a doctor to have a subject getting outpatient treatment maintain medical care.	-0.06	0.04	0.84	-0.17	0.04	0.55	0.55																																																						
51	Estimating social support necessary to a subject after getting out of hospital.	0.16	0.03	0.76	-0.12	-0.02	0.877	0.64																																																						
55	Telling subject's family members that a public health nurse can provide them with consultation regarding his/her future.	0.08	0.05	0.61	0.13	0.00	0.63	0.63																																																						
53	Making an opportunity for subject's family members to understand his illness and psychosocial situations.	-0.05	0.05	0.61	0.22	-0.03	0.58	0.58																																																						
Factor 4 "Care to ensure the subject does not become estranged from his/her family"																																																														
26	Explaining the purpose of compulsory diagnosis and medical care for a subject to his/her family member.	0.01	-0.06	-0.16	0.99	0.04	0.76	0.76																																																						
25	Explaining subject's current situations and sequence of events to his/her family members for calming them down.	-0.10	-0.05	0.07	0.87	-0.08	0.62	0.62																																																						
27	Explaining to a subject's family member that he/she is under protection due to the deterioration of his/her conditions when necessary.	0.24	-0.02	-0.02	0.63	-0.13	0.54	0.54																																																						
31	Explaining the process from now to the end of protection to a subject's family member.	-0.06	0.21	0.02	0.55	0.07	0.886	0.52																																																						
32	Asking a subject's family member to stay with him/her until the end of protection.	0.00	0.10	0.02	0.54	0.11	0.49	0.49																																																						
23	Asking a subject's family member about his/her situations, medical records, and life history.	0.13	0.08	0.01	0.51	0.11	0.58	0.58																																																						
29	Feeling empathy toward the difficulties subject's family members faced in the past and now.	0.17	0.07	0.24	0.41	-0.09	0.56	0.56																																																						
Factor 5 "Collection of objective data to inform decisions on the need for involuntary counseling"																																																														
2	Asking a police officer about all facts of events leading to the protection of a subject.	-0.06	-0.02	0.04	-0.08	1.01	0.89	0.89																																																						
1	Hearing subject's basic information necessary for the judgment of whether he/she should have a compulsory medical examination from a police officer.	-0.06	0.04	-0.01	-0.05	0.98	0.88	0.88																																																						
3	Making sure whether subject's conditions fall under the requirements of compulsory medical examination from police officer's information.	0.06	0.05	-0.04	0.13	0.68	0.66	0.66																																																						
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Contribution rate (%)</td> <td>43.478</td> <td>5.662</td> <td>4.409</td> <td>3.192</td> <td>2.449</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">Cumulative proportion (%)</td> <td>43.478</td> <td>49.140</td> <td>53.549</td> <td>56.741</td> <td>59.190</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">Factor 2</td> <td>0.64</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">Factor 3</td> <td>0.67</td> <td>0.63</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">Factor 4</td> <td>0.76</td> <td>0.69</td> <td>0.69</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">Factor 5</td> <td>0.60</td> <td>0.53</td> <td>0.41</td> <td>0.53</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>									Contribution rate (%)	43.478	5.662	4.409	3.192	2.449				Cumulative proportion (%)	43.478	49.140	53.549	56.741	59.190				Factor 2	0.64								Factor 3	0.67	0.63							Factor 4	0.76	0.69	0.69						Factor 5	0.60	0.53	0.41	0.53				
Contribution rate (%)	43.478	5.662	4.409	3.192	2.449																																																									
Cumulative proportion (%)	43.478	49.140	53.549	56.741	59.190																																																									
Factor 2	0.64																																																													
Factor 3	0.67	0.63																																																												
Factor 4	0.76	0.69	0.69																																																											
Factor 5	0.60	0.53	0.41	0.53																																																										

ii. Constructive concept validity

The 4 groups of respondents were compared according to years of experience as a mental health worker and years of experience in responding to Article 24 notifications (Table 3).

In terms of mental health worker experience, significant inter-group differences were observed for

the total care guide score and all subordinate factors except factor 5. Specifically, total care guide scores differed significantly between the entry level PHNs and the junior mid-level ($p < 0.001$), senior mid-level ($p < 0.001$), and veteran ($p < 0.05$) PHNs. In terms of the subordinate factors, there was a significant difference in factor 1 between the entry level PHNs and the senior mid-level ($p < 0.001$) and veteran ($p < 0.001$) PHNs; in factor 2 between the entry level and veteran PHNs ($p < 0.01$) and between the junior mid-level and veteran PHNs ($p < 0.05$); in factor 3 between the entry level and veteran PHNs ($p < 0.05$); and in factor 4 between the entry-level and senior mid-level/veteran PHNs ($p < 0.05$ respectively). There was no statistically significant difference between groups in Factor 5 but the scores of the entry level, the junior mid-level, senior mid-level and veteran improved in the ascending order.

In terms of experience in responding to Article 24 notifications, significant inter-group differences were observed for the total care guide score and all subordinate factors except factor 5. Specifically, total care guide scores differed significantly between the entry level PHNs and the junior mid-level ($p < 0.01$), senior mid-level ($p < 0.05$), and veteran ($p < 0.01$) PHNs. Significant differences in subordinate factors were seen in factor 1 between the entry level PHNs and the senior mid-level ($p < 0.05$) and veteran ($p < 0.01$) PHNs; in factor 2 between the entry level and veteran PHNs ($p < 0.05$) and between the junior mid-level and veteran PHNs ($p < 0.05$); in factor 3 between the entry level and veteran PHNs ($p < 0.05$); and in factor 4 between the entry-level and senior mid-level/veteran PHNs ($p < 0.05$ respectively). There was no statistically significant difference between groups in Factor 5 but the scores of the entry level, the junior mid-level level, senior mid-level and veteran improved in the ascending order.

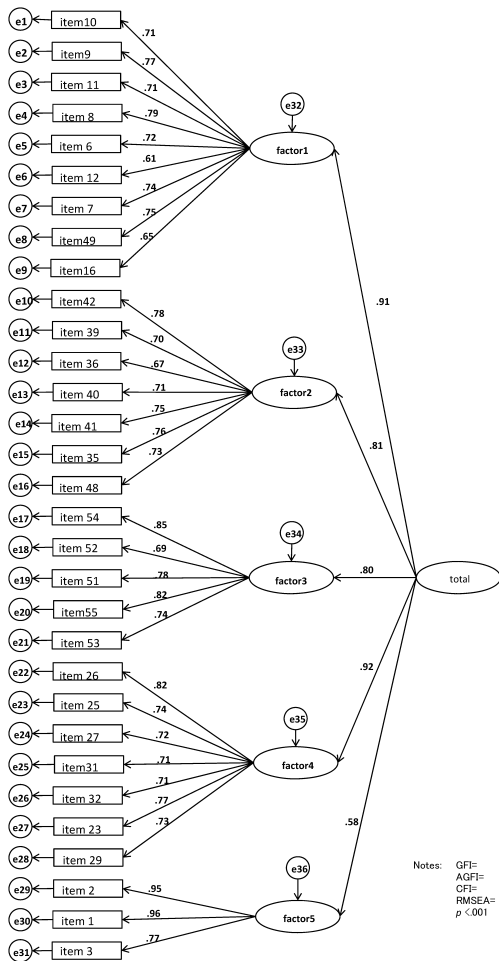


Figure 1 The results of covariance structure analysis

Table 2 The results of analysis of criterion-related validity

N=432

	A practical care guide for public health nurses responding to Article 24 notifications					
	Total	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Effect on future involvement with subject	0.341**	0.278**	0.277**	0.278**	0.315**	0.169**
Effect on future involvement with the subject's family	0.373**	0.314**	0.307**	0.312**	0.327**	0.131**
Confidence in responding to Article 24 notifications	0.351**	0.304**	0.297**	0.342**	0.243**	0.229**

Notes: Spearman's correlation coefficient **: $p < .01$

Table 3 The results of the known group method

N=432

		Years of experience as a mental health worker				
Factor		Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
entry level (1 to 5 years)	103.58	31.14	22.03	15.56	23.9	10.94
junior mid-level (6 to 10 years)	107.02	32.57	22.33	16.17	24.79	11.16
senior mid-level (11 to 20 years)	111.06	33.78	23.31	16.81	25.91	11.25
veteran (≥ 21 years)	114.16	33.89	24.78	17.55	26.18	11.76

		Years of experience in responding to Article 24 notifications				
Factor		Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
entry level (1 to 5 years)	104.74	31.69	21.99	15.76	24.33	10.97
junior mid-level (6 to 10 years)	111.1	33.53	23.66	16.75	25.49	11.44
senior mid-level (11 to 20 years)	112.61	33.71	23.89	17.44	26.24	11.56
veteran (≥ 21 years)	120.23	35.54	26.77	18.92	27	12

Notes: one-way analysis of variance, non-parametric multiple comparison Bonferroni ***: $p < .001$ **: $p < .01$ *: $p < .05$

■ Survey 2

The survey targeted 35 consenting PHNs using the test-retest method. A total of 30 PHNs responded (85.7%), of whom 26 submitted valid responses (74.3%). The reliability coefficient was $r=0.86$ for the total care guide score ($p < 0.001$), 0.81 for factor 1 ($p < 0.001$), 0.58 for factor 2 ($p < 0.01$), 0.78 for factor 3 ($p < 0.01$), and 0.85 for factor 4 ($p < 0.01$), with factor 5 being the only factor for which there was no correlation.

Discussion

1. Reliability and validity of practical guidance for PHNs responding to Article 24 notifications

Testing of the care guide's reliability showed that both the entire guide and the subordinate factors were internally consistent, with Cronbach's alpha values of 0.95 and 0.88 to 0.91 respectively. The stability of the entire guide was also confirmed with a reliability coefficient of 0.86 found with the test-retest method.

The validity of the care guide's content was ensured by way of expert assessment and correction of the care items during the drafting process. Constructive concept validity was tested using CFA of the hypothetical model based on the results of factor analysis and structural analysis of covariance, and by comparing the care guide scores of the 4 PHN groups classified according to years of experience. Criterion-related validity was investigated by testing the correlation between the care guide and the 3

criterion-related items.

Factor analysis identified 5 factors with eigenvalues of ≥ 1 .

Factor 1 ("Care with the aim of assessing risk and enabling the subject to regain his/her composure") describes care in which PHNs use their conversational and observational skills to assess subject risk and formulate an outlook on future developments; and seek to recognize and sympathize with the subject's current plight and work together to help the subject regain his/her peace of mind. Aguilera (1997) asserts that in the problem-solving approach to crisis intervention, it is crucial to carefully assess both the individual and the problem, and to develop an intervention strategy and method by evaluating past and present experiences based on these assessments. Subordinate items concerning the assessment of risk in factor 1 were perceived to integrate care actions relating to primary assessments and intervention strategies. Moreover, care actions to enable subject to regain their composure in factor 1 were consistent with the "de-escalation" (Kojima, 2008) technique.

Factor 2 ("Care with the aim of relieving the subject's anxiety and enabling him/her to safely attend the involuntary psychological evaluation") described care with the aim of controlling subject anger and anxiety, preparing the subject's physical environment during transfer to involuntary psychiatric care, requesting a police escort in anticipation of potential violent or aggressive behavior by the subject, and time management to help reduce the burden on the

subject. In some subjects, undergoing an involuntary psychiatric evaluation gives rise to fears of being sent to a psychiatric hospital against one's will or being forcefully hospitalized. It is therefore not uncommon for these subjects to become agitated or violent. Factor 2 was seen as care intended to prevent mental or physical injury to subjects as a result of their becoming agitated or violent, to minimize negative stimuli, and to provide peace of mind by staying with them, even in situations when the PHN is obliged to use coercion. There are also many cases where PHNs responding to Article 24 notifications are themselves exposed to violence or aggression from the subjects (Hirano, 2011). Providing care to relieve the subject's anxiety as described by Factor 2 is an important method of preventing or minimizing acts of violence by the subject, and is therefore intended to ensure the care not only of subjects but also PHNs and other relevant parties.

Factor 3 ("*Care to facilitate future interventions while the subject is still in police custody*") implies the provision of ongoing subject intervention as well as continuous medical care and assessment of social resources required to enable the subject to rehabilitate into the community, rather than ending all involvement with the subject and family after responding to the Article 24 notification. Kashiwa states that this ongoing involvement with subjects to treat disease and health issues is a defining characteristic of community-based mental health and welfare provided by PHNs (Kashiwagi, 2000). Factor 3 was perceived as specific actions aimed at fostering relationships with the people who support the subjects, such as family members and primary physicians, while also recognizing inherent time constraints.

Factor 4 ("*Care to ensure the subject does not become estranged from his/her family*") comprises care aimed at family members as well as subjects, and to help family members better understand the subject. One characteristic of the care provided by PHNs is to provide support for the entire family by identifying it as a single unit (Kanakawa, 2008). Meanwhile, Kanehira,

Nakamoto, Nishikawa & Kirimura (2010); Arai (2003) assert that family members of mentally-disabled individuals may require emotional support to help them deal with complex and conflicted attitudes towards the subject and discrimination from society. Factor 4 therefore highlights the fact

that even when responding to Article 24 notifications, PHNs tend to place an emphasis on support for family member. This factor also comprises care initiatives to encourage family members to view the subject and his/her circumstances in a positive light, with the ultimate aim of preventing the subject from becoming isolated from his/her family.

Factor 5 ("*Collection of objective data to inform decisions on the need for involuntary counseling*") refers to the accurate assessment of information from the police officers who submitted the Article 24 notification. Specifically, even if the initial assessment on the subject's condition was made by police, PHNs need to make a professional determination on whether the subject has a mental illness that could result in harm to the subject or to others.

In summary, the 5 identified factors are consistent with existing theories on risk intervention, prevention of aggression and violence, and support for family members, and represent care activities that PHNs must perform in the urgent circumstances that often exist in Article 24 notifications. The study results also imply that these factors comprise elements of professional care that recognize the subject's role as a member of the community, such as providing ongoing support, helping the subject to address the underlying factors that led to the crisis, and facilitating rehabilitation back into the community.

CFA based on covariance structure analysis was used to validate the hypothetical model in which the primary factors were the 5 above-mentioned factors; the secondary factor was the practical care guide. Although the GFI, AGFI, and CFI results were all slightly below the level of statistical significance, these 3 indices are known not to produce high values when there are multiple observed variables. It is also assumed that the smaller the difference between the AGFI and the GFI, the greater the model's goodness of fit. Despite the fact that the hypothetical model had many observed variables in the form of the guide's 31 items, the GFI was 0.823, and the difference between the GFI and the AGFI was small at 0.028. The CFI also approached the 0.90 level, at 0.890. Furthermore, the goodness-of-fit indices for each model component were statistically significant. Based on these findings, it is considered the fitness of the hypothetical model to data was in the range of acceptable values.

Criterion-related validity was investigated by test-

ing the correlation between the care guide and the 3 criterion-related items. Consequently, the total score of all 3 criterion-related items had significant and moderate positive correlations with the total care guide score, and with all subordinate factors except factor 5. This outcome was attributed to the fact that the study respondents possessed considerable experience as PHNs. Sixty five percent of respondents had at least 10 years experience as a municipal PHN, of whom a further 48.6% had at least 20 years experience. This extensive experience meant that the PHNs were keenly aware of the importance of the criterion-related items on involvement with subjects and family members, resulting in a concentration of high scores on the survey. Many PHNs recognize that an important role of their position is to engage with subjects and their families to prevent Article 24 notifications from occurring in the first place (Maeno et al., 2013). Perhaps as a consequence of this attitude, some respondents were reluctant to state that they were confident in their ability to respond to Article 24 notifications, leading to disparate responses in regards to this item. However, the positive correlation between all 3 criterion-related items and the care guide suggests that they have a certain degree of validity.

Examination of constructive concept validity using the known group method revealed that the group of respondents with more years of experience, both as public health nurses and in responding to Article 24 notifications, obtained higher care guide and subordinate factor scores. The findings of previous studies (Iwamoto et al., 2008; Saeki et al., 2004; Saeki et al., 2003) also suggest that PHNs with more years of practical experience tend to have better professional skills, thus attesting to the validity of the present study's constructive concept.

2. Characteristics and issues of the care guide

Due to the virtual lack of published literature on risk intervention techniques practiced by PHNs in community mental health settings, very little is known about the activities of PHNs in providing emergency responses to Article 24 notifications. Therefore, PHNs are required to develop their own methods for responding to these notifications through a process of trial and error. The care guide developed in the present study provides a set of targets that PHNs should aim for when responding to Article 24 notifications, and is therefore expected to

allow PHNs to evaluate and improve their practical performance in accordance with the stipulated items.

The 5 subordinate factors that compose the care guide are also anticipated to enable PHNs to develop and enhance their professional skills by allowing study of responses to specific cases, working towards the goal of achieving better patient outcomes.

One of the issues encountered in this study was the frequent appearance of the ceiling effect in the extent of implementation of the 55-item care guide, which we discovered when performing item analysis prior to the assessment of reliability and validity. The care guide contains care items intended to inform practical responses to Article 24 notifications. High scores for the implementation items were predominantly obtained by respondents with many years of experience in mental health care, who recognized the practical importance of performing each item. This was presumably why the respondents gave high ratings of their own practical experience. Looking at the results of known group analysis of survey scores among the respondents classified into 4 groups according to years of experience in responding to Article 24 notifications, significant differences were observed between the scores of entry-level PHNs and those of the other 3 groups, but the discrepancies were not large. However, the validity of the guide's content was confirmed in the drafting stage, and its criterion-related validity was also subsequently confirmed. In other words, the care guide could be used to evaluate the practical performance of PHNs responding to Article 24 notifications, but there is an issue in terms of the sensitivity of the rating method. Further testing is therefore required to address this issue. In conclusion, the care guide of the present study is sufficient for use by PHNs in reviewing their own practical care skills, but care should be taken when using the guide to compare these practical care skills among PHNs.

References

- Aguilera, C. D., translation supervised by Komatsu, G. & Arakawa, Y. 1997 *Crisis Intervention (7th edition)*. Kawashima Shoten.
- Arai, N. 2003 Feature and structure of nursing support turned to independence of family who employs mental impairment person: Focusing on an Individual Support activity of public health nurse in the region. *The Journal*

of *Juntendo Medical College of Nursing*, **14**, 75–84.

- Brown, R, E. 2013 *The Approved Mental Health Professional's Guide to Mental Health Law (3rd Revised edition)*, SAGE Publications Ltd.
- Fukuda, C., Saito, Y., Yanagisawa, H., Nagae, H., & Sakai, M. 2002 Public health nursing record of mental health and welfare consultation. *Journal of Public Health Nursing*, **58**(3), 248–257.
- Hirano, K. 2011 The study of crisis-management of health-care professionals in community; public health nurses et al. who are subjected to violence from residents, The overall report of Health Science Research.
- Iwamoto, S., Okamoto, R., & Shiomi, M. 2008 Development and evaluation of the reliability and validity of a scale for basic actions relevant to public health. *Journal of Japan Academy of Public Health*, **55**(9), 629–639.
- Japan's Ministry of Health, Labour and Welfare, Report on Public Health Administration and Services 1999–2011. <<http://www.e-stat.go.jp/SG1/estat/NewList.do?tid=000001031469>>
- Kanakawa, K, (Written and edited) 2008 Community health nursing II, Medical Friend Co. Ltd.
- Kanehira, A., Nakamoto, A., Nishikawa, M., & Kirimura, M., 2010 Consideration of public health nurses' skills necessary for home visit to mentally ill people. *Journal of Public Health Nursing*, **66**(2), 134–143.
- Kashiwagi, Y. 2000 Consideration of mental health and welfare from a standpoint of public health nurses' experience. *Journal of Public Health Nursing*, **56**(8), 622–625.
- Kojima, M. 2008 *Nursing Method and Intervention to Crisis*, Kinpodo.
- Maeno, Y. & Hatono, Y. 2013 The current reality and issues on support of notifications under Article 24 of Japan's Mental Health and Welfare Act. *Journal of Public Health Nursing*, **69**(3), 209–215.
- Niimura, J. & Kashiwagi, Y. 2003 The essential technique and viewpoint for public health nurses on mental health and welfare activity. *Journal of Public Health Nursing*, **59**(10), 916–922.
- Saeki, K., Izumi, H., Uza, M., & Takasaki, I. 2003 Development of a way to Measure the Practical Competence of Public Health Nurses. *Journal of Japan Academy of Community Health Nursing*, **6**(1), 32–39.
- Saeki, K., Izumi, H., Uza, M., & Takasaki, I. 2004 Development Competences in Public Health Nurses. *Journal of Japan Academy of Community Health Nursing*, **17**(1), 16–22.
- Takaoka, M. 2008 The guide of crisis intervention on mental health and welfare services. *Japan Association of Public Health*.

(Received: 2013.7.3; Accepted: 2013.9.12)