ORIGINAL PAPER

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Factors related to physical violence and verbal abuse by residents for public health nurses during home visits

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ABSTRACT

Recently, customer harassment has attracted considerable attention in various professional fields. Home visits are the basis of public health nurses' activities, but there are few reports on customer harassment during home visits. This study clarified the current situation and factors related to verbal abuse and physical violence experienced from residents during public health nurses' home visits. Data were collected from 80 individuals through a mailed survey of 154 public health nurses employed at 17 health centers in Gifu Prefecture. The survey utilized anonymous and self-administered questionnaires (response rate, 51.9%). The analysis showed that 80.0% of the participants had experienced the verbal abuse by residents during home visits, and 16.3% had experienced the physical violence. Result of logistic analysis, those who had experienced verbal abuse were approximately 10 times more likely to experience physical violence (adjusted odds ratio [AOR]=9.95; 95% confidence interval [CI]=2.49–39.79). Additionally, it was suggested that a factor associated with verbal abuse was "the number of months from starting work until visiting alone." In contrast, factors associated with physical violence included "total years of experience as a public health nurse," "highest level of education," "qualifications," "type of work," and "experience outside of public health center or health center."

Keywords: public health nurse, home visit, physical violence, verbal abuse, resident

INTRODUCTION

Recently, customer harassment has attracted considerable attention in various fields. Japan's Ministry of Health, Labour and Welfare has created the "Manual for addressing customer harassment in business".[1] However, it does not sufficiently include countermeasures and methods for the medical, health, and welfare fields, and each facility must deal with the issue on its own. Workplace violence is defined as incidents in which healthcare workers are attacked, threatened, or abused in a work-related situation that poses a direct or indirect threat to their safety or health.[2] Violence in the healthcare sector has increased over the past decade and has become a major global concern.[3] Recent statistics indicate that healthcare workers are five times more likely to be victims of violence than workers in other fields and are involved in more than 70% of non-fatal violent workplace incidents.[4] Victims of workplace violence are said to experience

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negative psychological effects, such as a decline in their quality of life and self-esteem, as well as increased anxiety and stress.[5-7] Furthermore, workplace violence is often associated with poorer job performance due to lower job satisfaction, increased absenteeism, and reduced employee retention, which may reduce patient care quality and other healthcare services' productivity.[8-10]

Around the world, the health system has focused on individual disease management at the tertiary level. However, recently, there has been a move toward strengthening the health needs of patients and local populations at the primary level.[11] In Japan, lifelong health promotion is being promoted with an emphasis on primary prevention, extending healthy lifespan, and improving quality of life. By their very nature, primary healthcare services provide vital services to communities. As such, they are more likely to encounter violence because of the need to interact directly with residents and families.[12] Primary healthcare workers perform different services, work tasks, and work environments,[13] and since the 1978 Alma-Ata Declaration, there has been growing interest in empirical research investigating workplace violence in primary healthcare services worldwide.[14]

However, there are few studies examining workplace violence among primary healthcare service workers, particularly public health nurses.[15,16] Among these, there have been no reports focusing on home visits, which are the basis of administrative public health nurses' activities, and efforts are needed to clarify the reality of workplace violence and its related factors. Therefore, this study clarified the current situation and factors related to verbal abuse and physical violence that are likely to occur during public health nurses' home visits.

METHODS

Definition of terms

Physical violence. Physical violence includes actions such as hitting, striking with an object, kicking, biting, spitting, pinching, pulling hair, punching, or threatening with a knife.

Verbal abuse. Verbal abuse includes abusive language, which is shouting, threatening with a raised fist, or using personal attacks. Threatening behavior may involve statements such as "I am going to kill you," "I am going to sue you," and "Remember this." Other forms of harassment include persistent unreasonable complaints or demands, including frequent repetitive questions and discussions on similar topics.

Study design

This study adopted a cross-sectional study design.

Study subjects and method

The participants were public health nurses working at public health centers and health centers in Gifu Prefecture. Public health centers are administrative institutions established by prefectures, special wards, designated cities, core cities, and ordinance-designated cities, and public health nurses are employees (administrative positions) of their local governments who work as public health experts. In addition to providing consultation and support to people recovering from intractable diseases, tuberculosis, and other illnesses, and people with mental disabilities, they work with municipal public health nurses to grasp and investigate health issues throughout the region, build a local care system, and take measures. Health centers are administrative institutions established by special wards and municipalities, and public health nurses are employees (administrative positions) of those municipalities who work as public health experts. They are characterized by the fact that they serve local residents of all ages and with a wide range of health levels,

including infants, pregnant women, adults, elderlies, and people with disabilities, and are close to residents and take on the role of providing comprehensive health and welfare consultations and community development rooted in the local area.[17] A request for research cooperation was sent by mail to the head of each facility, and a questionnaire survey was requested from the subjects. A total of 154 participants from 17 facilities participated in the survey. A mail survey was conducted using anonymous self-administered questionnaires.

Survey period

It spanned December 1 through December 31, 2023.

Survey content

The survey contents were selected based on the journals that featured the activities of public health nurses, and the survey items of the national and nursing associations.[18-20] Additionally, multiple current public health nurses considered the items to ensure the validity of the expression and the validity of the content.

Participants' background. Demographic and professional characteristics included sex, age, marital status, parental status, highest level of education, the institution where public health nurse training was completed, total years of experience as a public health nurse, and qualifications.

Facility background. Workplace and professional background factors included population size of the workplace, employer type, facilities, type of work, and affiliation work structure. Current job details encompassed current position. Professional experience comprises work experience outside of a public health center or health center and its specifics, experience outside the current job and its details, and the duration of experience outside the current job in months.

Home visits items. The data included the number of home visits per month, the number of months from starting work until visiting alone, and the experience of verbal abuse and physical violence by residents. This was rated on a four-point scale of 1 (not at all applicable), 2 (slightly), 3 (somewhat), and 4 (very applicable).

Statistical analysis

To clarify the current situation and factors related to verbal abuse and physical violence, basic statistics were calculated for each survey item, and comparisons between the participants' backgrounds, the facility backgrounds, and experiences of the verbal abuse and the physical violence by residents were conducted. In order to show the distribution of data on the experiences of verbal abuse and physical violence by residents for each item and to conduct statistical tests, the study adopted the Mann–Whitney U test for two-group comparisons and the Kruskal–Wallis test for comparisons between three or more groups. When significant differences were observed in the comparisons between three or more groups, the Bonferroni correction was applied. Spearman's correlation coefficients were calculated to examine the relationship between the experience of verbal abuse and physical violence by residents. Further, the following factors were calculated: age, total years of experience as a public health nurse, duration of experience outside the current job in months, the population size of the workplace, number of home visits per month, and the number of months from starting work until visiting alone. Additionally, to confirm the effect of verbal abuse on violent experiences, a logistic regression analysis was conducted using the experience of physical violence as the dependent variable, coded as 1 for "slightly" or "somewhat" or "very applicable" and 0 for "not at all applicable." The experience of verbal abuse, coded similarly, was included as the independent variable, with age and sex as adjustment variables.

Statistical analysis was conducted using the exact probability method and SPSS Windows software version 29 (IBM). Statistical significance was set at $P < 0.05$.

Ethical considerations

This study has been approved by the Medical Review Board of Gifu University Graduate School of Medicine (approval number, 2019-069), and has been performed in accordance with the ethical standards laid down in an appropriate version of the 1964 Declaration of Helsinki. The participants' willingness to consent to participate in the study was confirmed by their completion of the consent section in the questionnaire. Responses were voluntary, and individual replies were used.

RESULTS

Questionnaires were returned by 80 individuals (response rate, 51.9%), and all were included in the analysis (valid response rate, 100%).

Study participants' background

Table 1 shows the backgrounds of the study participants.

The participants were 78 female (97.5%), and the average age was 39.8 ± 10.1 years. Regarding "marital status," 60 individuals (75.0%) were "married," and regarding "parental status," 57 individuals (71.3%) said they "have children." Regarding "highest level of education" and "institution where public health nurse training was completed," 48 individuals (60.0%) answered "four-year university," and the average "total years of experience as a public health nurse" was 15.0 ± 10.0 years. Concerning "qualifications", the most common were "public health nurse" (80 individuals, 100%), followed by "nurse" (77 individuals, 96.3%), "school nurse" (22 individuals, 27.5%), and "care manager" (17 individuals, 21.3%).

Table 1 Study participants' background

n=80

		n	%	Mean ± SD
Sex				
	Male	1	1.3	
	Female	78	97.5	
	No answer	1	1.3	
Age (years)				39.8 ± 10.1
Marital status				
	Married	60	75.0	
	Unmarried	15	18.8	
	Previously married	5	6.3	
Parental status				
	Have children	57	71.3	
	No children	22	27.5	
	No answer	1	1.3	

Highest level of education			
	Vocational school	20	25.0
	Junior college/junior college specialized course	10	12.5
	Four-year university	48	60.0
	Graduate school master's program (master's degree)	2	2.5
Institution where public health nurse training was completed			
	1 year vocational school course	27	33.8
	Junior college specialized course	5	6.3
	Four-year university	48	60.0
Total years of experience as a public health nurse			15.0 ± 10.0
Qualifications (multiple answers)			
	Public health nurse	80	100
	Nurse	77	96.3
	School nurse	22	27.5
	Care manager	17	21.3
	Mental health and welfare worker	7	8.8
	Midwife	3	3.8
	Others	2	2.5

Some items do not add up to 100% due to rounding.

Study participants' facility background

Table 2 presents the facility background of the study participants. The average "population size of the workplace" was 166,491.4 ± 340,018.5 individuals (minimum, 5,000; maximum, 410,000), and the most common "employer type" was "city" with 33 individuals (41.3%), followed by "town" with 26 individuals (32.5%). Regarding "facilities", the most common was "the health center", with 49 individuals (61.3%), followed by "the public health center", with 15 individuals (18.8%), and "the community comprehensive support center", with nine individuals (11.3%). Concerning "type of work," the most common area was "maternal and child health" with 31 individuals (38.8%), followed by "adult health" with 26 individuals (32.5%), "mental health" with 19 individuals (23.8%), and "tuberculosis or infectious diseases" with 18 individuals (22.5%). Regarding the "affiliation work structure," 41 individuals (51.2%) had an "area/business responsibility system," followed by 34 individuals (42.5%) who had a "business responsibility system." In terms of "current position," the most common was "staff," with 26 individuals (32.5%), followed by "chief," with 18 individuals (22.5%), and "assistant manager" with 14 individuals (17.5%). When asked about "experience outside of a public health center or health center," 36 individuals (45.0%) answered "yes," and in terms of "details of experience," 14 individuals (38.9%) answered "in the welfare/nursing care insurance department." When asked about "experience outside the current job," 37 individuals (46.3%) answered "yes," with 34 individuals (91.9%) being "nurses," making up the majority. The average "duration of experience outside the current job in months" was 54.1 ± 41.6 months.

Table 2 Study participants' facility background

n=80

		n	%	Mean ± SD
Population size of the workplace				166491.4 ± 340018.5
Employer type				
	City	33	41.3	
	Town	26	32.5	
	Core city	8	10.0	
	Government ordinance-designated city	2	2.5	
	Others	11	13.8	
Facilities				
	Health center	49	61.3	
	Public health center	15	18.8	
	Community comprehensive support center	9	11.3	
	City/town/village office	5	6.3	
	Others	1	1.3	
	No answer	1	1.3	
Type of work (multiple answers)				
	Maternal and child health	31	38.8	
	Adult health	26	32.5	
	Mental health	19	23.8	
	Tuberculosis/infectious diseases	18	22.5	
	Nursing care insurance/preventive nursing care	15	18.8	
	Planning and coordination	9	11.3	
	Incurable disease	7	8.8	
	Welfare for the disabled	5	6.3	
	Medical consultation	1	1.3	
	Others	6	7.5	
Affiliation work structure				
	Area/business responsibility system	41	51.2	
	Business responsibility system	34	42.5	
	Area responsibility system	2	2.5	
	Others	3	3.8	
Current position				
	Staff	26	32.5	
	Chief	18	22.5	
	Assistant manager	14	17.5	
	Manager	7	8.8	
	Section manager	6	7.5	
	Others	9	11.3	

Experience outside of a public health center or health center			
Yes	36	45.0	
No	44	55.0	
Details of experience outside of public health center or health center (multiple answers, n=36)			
Welfare/nursing care insurance department	14	38.9	
City/town/village office	11	30.6	
Others	16	44.4	
Experience outside the current job			
Yes	37	46.3	
No	43	53.8	
Details of experience outside the current job (multiple answers, n=37)			
Nurse	34	91.9	
Midwife	2	5.4	
Hospital public health nurse	1	2.7	
Nursing assistant	1	2.7	
School nurse	1	2.7	
Others	1	2.7	
Duration of experience outside the current job in months			54.1 ± 41.6

Some items do not add up to 100% due to rounding.

Home visit items

The average number of home visits per month was 5.7 ± 5.2, and the average number of months from starting work until visiting alone was 4.1 ± 4.6 months. When asked if they had experienced verbal abuse by residents, 14 individuals (17.5%) answered "slightly," 28 individuals (35.0%) answered "somewhat," and 22 individuals (27.5%) answered "very applicable," for a total of 64 individuals (80.0%). When asked about their experience of physical violence from residents, seven individuals (8.8%) answered "slightly," four individuals (5.0%) answered "somewhat," and two individuals (2.5%) answered "very applicable," for 13 individuals (16.3%) (Figure).

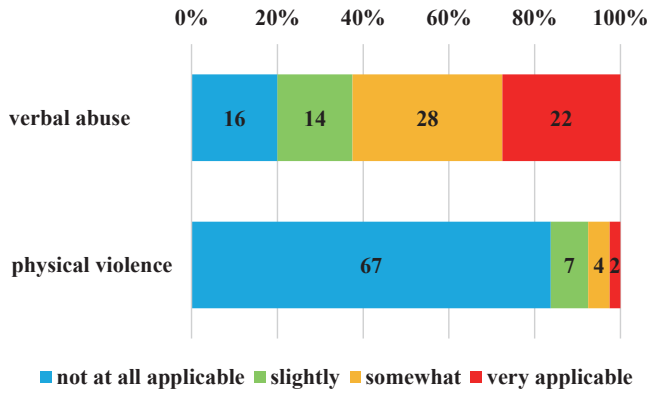

Fig. Experience of verbal abuse and physical violence by residents

Relationship between experiences of verbal abuse and physical violence by residents and each survey item

Tables 3–5 show the relationship between residents' experiences of verbal abuse and physical violence for each survey item.

First, Table 3 shows the distribution of data on experiences of verbal abuse and physical violence by residents for each item of study participants' background and facility background, shown as median (quartile) and average rank. Relationships were confirmed by using the Mann–Whitney U test or the Kruskal–Wallis test on the average rank between each item. Regarding the relationship between experience of physical violence from residents and the survey items, significant differences were found between "four-year university (median, 1.00 [IQR 1.00–1.00]; average rank, 36.6)" and "graduate school master's program (master's degree) (median, 2.00 [IQR 2.00–2.00]; average rank, 71.0)" in "highest level of education" (P=0.007), "school nurse (median, 1.00 [IQR 1.00–2.00]; average rank, 48.1)" in "qualifications" (P=0.009), "tuberculosis or infectious diseases (median, 1.00 [IQR 1.00–2.00]; average rank, 47.3)" in "type of work" (P=0.025), and "welfare or nursing care insurance department (median, 1.00 [IQR 1.00–2.25]; average rank, 48.4)" in "details of experience outside of public health center or health center" (P=0.023).

Next, Table 4 shows Spearman's correlation coefficients calculated based on the ranking of the relationships between the quantitative variables of study participants' background, facility background, and home visits items, the data on experiences of verbal abuse and physical violence by residents. Regarding the relationship between experiences of verbal abuse by residents and the survey items, a positive correlation was found with "the number of months from starting work until visiting alone" (r=0.232, P=0.044). In relation to physical violence, a significant positive correlation was found between "total years of experience as a public health nurse" (r=0.462, P=0.026) and "experience of verbal abuse by residents" (r=0.310, P=0.005).

Finally, Table 5 shows the effect of having or not having experienced verbal abuse on experiencing physical violence, adjusting for the participants' age and gender. Logistic regression analysis revealed a significant difference in the association factor between "experience of physical violence from residents" and "experience of verbal abuse by residents" (OR=9.945; CL, 2.485–39.791) (P=0.001).

Table 3 Study participants' background, facility background, and experience of verbal abuse and physical violence by residents

n=80

		Verbal abuse						Physical violence					
		n	Percentile			Average rank	P	Percentile			Average rank	P	
			25	50	75			25	50	75			
Sex	Male	1	3.00	3.00	3.00	43.5	1.000	1.00	1.00	1.00	33.5	1.000	
	Female	78	2.00	3.00	4.00	40.0		1.00	1.00	1.00	40.1		
Marital status	Married	60	1.25	3.00	3.00	35.9		1.00	1.00	1.00	37.6		
	Unmarried	15	3.00	3.00	4.00	46.6	0.080	1.00	1.00	1.00	39.8	0.655	
	Previously married	5											
Parental status	Have children	57	2.00	3.00	4.00	39.5	0.721	1.00	1.00	1.00	40.5	0.604	
	No children	22	1.75	3.00	4.00	41.4		1.00	1.00	1.00	38.7		
Highest level of education	Vocational school	20	2.25	3.00	4.00	46.3		1.00	1.00	1.75	44.2		
	Junior college/junior college specialized course	10	2.00	3.00	4.00	46.7	0.314	1.00	1.00	2.00	45.7	0.005	
	Four-year university	48	2.00	3.00	3.00	36.6		1.00	1.00	1.00	36.6	0.007	
	Graduate school master's program	2	2.00	3.00	–	46.5		2.00	2.00	2.00	71.0		
Institution where public health nurse training was completed	1 year vocational school course	27	2.00	3.00	4.00	46.2		1.00	1.00	2.00	44.5		
	Junior college specialized course	5	2.00	3.00	4.00	47.3	0.154	1.00	1.00	2.00	48.8	0.062	
	Four-year university	48	2.00	3.00	3.00	36.6		1.00	1.00	1.00	37.4		
Qualifications	Nurse	77	2.00	3.00	4.00	40.3	0.790	1.00	1.00	1.00	40.8	0.812	
	School nurse	22	2.00	2.50	4.00	41.0	0.913	1.00	1.00	2.00	48.1	0.009	
	Care manager	17	3.00	3.00	4.00	48.7	0.091	1.00	1.00	2.50	46.4	0.069	
	Mental health and welfare worker	7	1.00	3.00	4.00	40.7	0.834	1.00	1.00	2.00	50.6	0.073	
	Midwife	3	2.00	3.00	–	45.8	0.755	1.00	1.00	1.00	34.0	0.813	
	Others	2	3.00	3.50	–	57.0	0.405	1.00	2.00	–	55.3	0.148	
Employer type	City	33	1.00	3.00	3.50	36.9		1.00	1.00	1.00	39.9		
	Town	26	2.00	3.00	4.00	43.6		1.00	1.00	1.00	41.9		
	Core city	8	3.00	3.00	4.00	49.4	0.349	1.00	1.00	1.00	34.0	0.559	
	Government ordinance-designated city	2	3.00	3.50	–	57.0		1.00	1.00	1.00	34.0		
	Others	11	2.00	3.00	3.00	34.5		1.00	1.00	2.00	44.9		
Facilities	Health center	49	2.00	3.00	4.00	40.7		1.00	1.00	1.00	39.9		
	Public health center	15	2.00	3.00	3.00	40.1		1.00	1.00	1.00	41.4		
	Community comprehensive support center	9	1.50	3.00	3.50	37.0	0.989	1.00	1.00	1.00	38.2	0.967	
	City/town/village office	5	1.50	3.00	3.50	37.7		1.00	1.00	2.00	41.9		
	Others	1	3.00	3.00	3.00	44.0		1.00	1.00	1.00	33.5		

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Type of work	Maternal and child health	31	2.00	3.00	4.00	42.5	0.527	1.00	1.00	1.00	40.3	0.872
	Adult health	26	2.00	3.00	4.00	45.4	0.183	1.00	1.00	1.00	40.2	0.937
	Mental health	19	3.00	3.00	4.00	47.2	0.142	1.00	1.00	1.00	40.6	1.000
	Tuberculosis/infectious diseases	18	2.75	3.00	4.00	49.3	0.059	1.00	1.00	2.00	47.3	0.025
	Nursing care insurance/preventive nursing care	15	2.00	3.00	4.00	39.8	0.887	1.00	1.00	1.00	39.7	0.966
	Planning and coordination	9	1.50	3.00	3.50	37.4	0.703	1.00	1.00	1.00	38.1	0.642
	Incurable disease	7	2.00	3.00	4.00	47.1	0.440	1.00	1.00	1.00	40.5	1.000
	Welfare for the disabled	5	2.00	3.00	4.00	47.3	0.517	1.00	1.00	2.00	42.5	0.779
	Medical consultation	1	1.00	1.00	1.00	8.5	0.204	1.00	1.00	1.00	34.0	1.000
	Others	6	3.00	3.00	4.00	52.8	0.178	1.00	1.00	3.00	48.2	0.085
Affiliation work structure	Area/business responsibility system	41	1.50	3.00	4.00	39.4	0.818	1.00	1.00	1.00	39.7	0.735
	Business responsibility system	34	2.00	3.00	4.00	40.6		1.00	1.00	1.00	41.2	
	Area responsibility system	2	3.00	3.00	3.00	44.5		1.00	1.00	1.00	34.0	
	Others	3	3.00	3.00	–	52.8		1.00	1.00	–	48.2	
Current position	Staff	26	1.00	3.00	4.00	38.5	0.565	1.00	1.00	1.00	38.5	0.148
	Chief	18	1.75	2.00	3.00	33.7		1.00	1.00	1.00	38.6	
	Assistant manager	14	3.00	3.00	4.00	47.6		1.00	1.00	1.25	42.3	
	Manager	7	1.00	3.00	4.00	44.9		1.00	1.00	3.00	51.9	
	Section manager	6	2.00	3.00	4.00	45.8		1.00	1.00	2.25	47.3	
	Others	9	2.00	3.00	4.00	41.8		1.00	1.00	1.00	34.0	
Experience outside of a public health center or health center	Yes	36	2.00	3.00	4.00	43.2	0.336	1.00	1.00	1.00	38.5	0.184
	No	44	2.00	3.00	3.00	38.3		1.00	1.00	1.00	42.9	
Details of experience outside of public health center or health center	Welfare/nursing care insurance department	14	1.75	3.00	4.00	46.0	0.315	1.00	1.00	2.25	48.4	0.023
	City/town/village office	11	2.00	3.00	4.00	45.1	0.483	1.00	1.00	1.00	41.5	0.800
	Others	16	2.00	3.00	4.00	44.5	0.440	1.00	1.00	1.00	41.3	0.967
Experience outside the current job	Yes	37	2.00	3.00	4.00	43.3	0.312	1.00	1.00	1.00	41.2	0.760
	No	43	2.00	3.00	4.00	38.1		1.00	1.00	1.00	39.9	
Details of experience outside the current job	Nurse	34	2.00	3.00	4.00	42.3	0.542	1.00	1.00	1.00	40.5	1.000
	Others	6	2.75	3.50	4.00	53.5	0.154	1.00	1.00	1.50	41.1	0.777

Analyses were performed using the Mann–Whitney U test or the Kruskal–Wallis test. Unknown answers were excluded from the analysis.
When significant differences were observed in the comparisons between three or more groups, the Bonferroni correction was applied. (})

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Table 4 Correlation with experience of verbal abuse and physical violence from residents

n=80

		Age	Total years of experience as a public health nurse	Duration of experience outside the current job in months	Population size of the workplace	Number of home visits per month	Number of months from starting work until visiting alone	Verbal abuse
Verbal abuse	r	0.080	0.196	–0.083	0.057	0.060	0.232	–
	P	0.631	0.369	0.630	0.645	0.647	0.044	–
Physical violence	r	0.210	0.462	–0.130	0.012	–0.173	0.009	0.310
	P	0.205	0.026	0.451	0.924	0.183	0.939	0.005

Analyses were performed using the Spearman's correlation coefficients. Unknown answers were excluded from the analysis.

Table 5 Relationship between experiences of verbal abuse and physical violence

n=80

	Physical violence		Adjusted age/sex		
	Experienced	No experience			
	n (%)	n (%)	OR	95% CI	P
Verbal abuse					
Experienced	9 (40.9)	13 (59.1)	9.95	(2.49 – 39.79)	0.001
No experience	4 (6.9)	54 (93.1)	reference		

Analyses were performed using the logistic regression analysis. See the Statistical Analysis section for a description of the codes.

DISCUSSION

This study aimed to clarify the prevalence of verbal abuse and physical violence by residents during home visits by public health nurses, as well as the associated factors.

Comparing the results of previous surveys[15,16] of public health nurses in 2003 and 2009, there was a tendency for many public health nurses to have experienced verbal abuse but fewer to have experienced physical violence. Previous studies have shown similar trends targeting nurses and medical professionals in medical institutions and home care services.[21-25] This is presumably the result of the government, nursing associations, and various other organizations and facilities that do not tolerate violence by patients or residents. These policies foster an environment that prevents violence, including organizing study sessions training sessions, and creating manuals that provide concrete countermeasures against violence.[26-30] A survey of home healthcare workers noted the importance of workplace violence prevention training focused on the characteristics of aggressive or violent patients and families and using the telephone as a resource to promote safety.[31] McPhaul[32] also pointed out the importance of guidelines, such as home healthcare workers leaving their schedule with someone in the office before the visit, calling the person they are supporting in advance, carrying a phone, and visiting in pairs. It is believed that the fact that public health nurses have taken similar actions during their visits has led to a decrease in violence from residents.

However, this study showed that 80.0% of respondents had experienced verbal abuse by residents, indicating that they were approximately 10 times more likely to experience physical violence. Furthermore, a positive correlation was found between the number of months from starting work until visiting alone and the experience of verbal abuse. Therefore, verbal abuse by residents must be considered a problem. A previous study of home care aides also reported that those who had verbally abused were 11.53 times more likely to have experienced physical violence.[33] The same study also found an association between clients' verbal abuse and unclear care delivery plans.[33] Additionally, an interview survey of patients at medical institutions reported that staff members who did not communicate with them led to aggressive behaviors by patients and their families.[34] Looking ahead, public health nurses who take a long time to make home visits on their own, including those who have experienced verbal abuse by residents, will require extensive support. This support should focus on planning home visits appropriate for the target population and timing, improving visiting techniques, and developing effective communication skills with residents.

This survey also revealed a relationship between "highest level of education," "qualifications," "type of work," "total years of experience as a public health nurse," and experiences of physical violence from residents. Regarding the "highest level of education," a significant difference was found between a "four-year university" and "graduate school master's program (master's degree)." Recently, basic nursing education has required training high-quality personnel who can respond to social changes, such as the need for more excellent medical safety, and who have the skills necessary as nurses.[35-37] In four-year universities, more institutions are incorporating lectures and seminars on nursing ethics, safe medical care, risk management, and other topics into their curricula. This may help students develop knowledge, awareness, and coping skills regarding violence. Conversely, those who have completed a master's course at graduate school are considered to have advanced practical skills and research abilities and are likely to be in charge of complex and challenging home visit cases in the field.

Regarding "qualifications", they were "school nurses"; in terms of "type of work," they were "tuberculosis or infectious diseases," Concerning "details of experience outside of public health center or health center," they were in the "welfare or nursing care insurance department." Moreover, many had experienced physical violence from residents. Currently, maternal and child healthcare works with school healthcare to provide consultation and check on the growth and development of infants and young children. Further, it responds to cases with a high risk of abuse, providing consultation and coordination for those with illnesses or disabilities regarding attendance and attendance at school. Additionally, it handles problems such as children refusing to go to school or becoming withdrawn. Consequently, public health nurses who are qualified as school nurses take the lead in these situations, making them vulnerable to violence from their children and parents. Previous studies have noted that healthcare workers are more likely to experience violence when providing services outside institutional settings, such as home visits and school health services.[38-40]

Residents with tuberculosis or other infectious diseases may be foreign nationals or live in complex environments.[41] Additionally, residents with no or mild symptoms did not feel the need to seek medical treatment. Even those with symptoms may not see the need to continue seeking medical treatment or taking medication once their symptoms improve through treatment or medication. A study on home care workers found that demanding clients was associated with poorer health outcomes.[42] Furthermore, a study on healthcare workers in various countries reported that uncertainty about treatment and frequent interruptions were related to violent incidents. Friction often occurs when public health nurses ask residents and their families to check their medical appointments, continue taking medication, or provide health guidance.[43]

Public health nurses are dispersed in the welfare and long-term care insurance sector and work alone or in small teams to provide a wide range of services. These services include coordinating care for individuals with various illnesses or disabilities, older adults, and residents with dementia, facilitating communication between patients and their families, and providing welfare assistance and financial support. Previous studies have shown that workplace loneliness[43] and a lack of support at work[44] are associated with a higher risk of workplace violence. Chakraborty et al[22] pointed out that a lack of communication among healthcare professionals plays a significant role. Additionally, long-term care nurses with both medical and administrative responsibilities experience role ambiguity and diversity,[45] and several studies have found an association between their interactions with dementia caregivers and assaults.[33,46]

Previous studies targeting nurses and medical professionals[47-52] have shown a relationship between younger workers with less experience and physical violence, but the results of this study were contradictory. In the case of administrative public health nurses, those with long work experience or high positions often make home visits for the complex and challenging cases described above. Even experienced public health nurses are at risk when making home visits alone; therefore, it is necessary to devise creative strategies to address this issue.[53] These may include pairing visits with other public health nurses or administrative staff[28,32] and introducing virtual home visits using information and communication technology, as done during the coronavirus disease pandemic, for residents at high risk of verbal or physical abuse.[54,55]

In this survey, only 16.3% of participants had experienced physical violence, however there is a high possibility that this will develop into an experience of violence in the future. As a public health nurse, it is essential to consider this when making home visits and establish an organizational system for home visits, in-service training, and risk management. The survey suggests that measures against physical violence from residents, particularly verbal abuse, are urgent issues.

Research limitations and challenges

This survey targeted public health nurses working at 17 facilities in Gifu Prefecture. Therefore, there are limitations in generalizing the results to other prefectures or municipalities. It is also assumed that individuals who have experienced verbal abuse and physical violence by residents tend not to respond to the survey, as they would view it negatively. In addition, age and sex were selected as adjustment variables after examining models based on previous and this study results and checking the information criteria; however, the possibility of selection bias cannot be denied.

In the future, surveys should target public health nurses working in various prefectures and municipalities across Japan. Additionally, it will be vital to examine the prevalence of verbal abuse and physical violence for public health nurses in other countries. By identifying public health nurses in regions and countries where they have little or no experience of verbal abuse and physical violence by residents, it may be possible to use this information to inform the education and work structure of public health nurses. Developing measures tailored to the target audience and current circumstances will be essential to ensure that public health nurses can work safely and with peace of mind.

CONCLUSION

Among public health nurses, 80.0% had experienced verbal abuse by residents during home visits, and 16.3% had experienced physical violence. Those who had experienced verbal abuse were approximately 10 times more likely to experience physical violence. Additionally, it was

suggested that a factor associated with verbal abuse was "the number of months from starting work until visiting alone." In contrast, factors associated with physical violence were "total years of experience as a public health nurse," "highest level of education," "qualifications," "type of work," and "experience outside of public health center or health center."

CONFLICT OF INTEREST

I declare that I have no competing interests.

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