Training about Mental Disorder and Screening/Assessment Associated with Knowledge/Experience in Public Health Workers in Japan

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Research

Keywords: Training course, Community mental health, Public health, Primary care

Posted Date: June 11th, 2021

DOI: <https://doi.org/10.21203/rs.3.rs-558057/v1>

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Abstract

Background

Training non-specialist workers in mental healthcare improves knowledge, attitude, skills, and confidence as well as clinical practice and skills. However, still little information is available on what type of mental health training is specifically associated with the improvement of such capacities. Japan reportedly has a poor quality of community mental health, and such information is crucial to improve the mental health service.

Methods

We studied web-based survey data of 495 public health workers in Japan to examine training types associated with knowledge/experience to support individuals with mental disorders. Multivariable logistic regression analysis was conducted to evaluate the association between lack of knowledge/experience (outcome) and mental health training (exposure). We fitted three regression models. Model 1 evaluated unadjusted associations. Model 2 adjusted for age and sex. Model 3 adjusted for age, sex, years of experience, mental health full-time worker status, and community population.

Results

For all training types, the association between lack of knowledge/experience and mental health training attenuated as the model developed (i.e., Model 1 showed the smallest odds ratio). In Model 3, lack of knowledge/experience was significantly associated only with training about mental disorder and screening/assessment (OR, 0.54; 95% CI, 0.33–0.90; and OR, 0.63; 95% CI, 0.40–0.97, respectively).

Conclusions

We believe that the present study provides meaningful information that training about mental disorder and screening/assessment may lead to knowledge/experience of public health workers. Further studies should employ a longitudinal design with a larger sample.

Background

Mental illness is one of the major causes of disability and takes a significant proportion of the global burden of disease [1, 2]. Mental disorders have the longest years lived with disability, and are the same level with cardiovascular and circulatory diseases in terms of disability-adjusted life-years [3]. Across all regions of the world, mental disorders are highly prevalent and affecting individuals [4]. Approximately one-fifth of individuals in a general population experiences 12-month mental disorder [4]. Previous data

suggested that the global direct and indirect economic costs of mental disorders were estimated at US\$2.5 trillion [5].

Mental health care underwent major changes in many countries around the world during the past decades [6]. Of these, the development of community-based care is one of the most important changes [6]. In communities, non-specialist workers, such as primary care and public health workers, need to manage individuals with mental disorders. Integrating mental health services at the primary care level is the most viable way of decreasing the treatment gap and ensuring that people undergo the mental health care they need [7].

To achieve this, certain skills and competencies are required to effectively assess, diagnose, treat, support, and refer individuals with mental disorders. Therefore, non-specialist workers need to be adequately prepared and supported in their mental health work [7, 8]. The WHO Mental Health Action Plan (2013–2020) and the WHO Mental Health Gap Action Programme recommended adequate training about non-specialist workers in diagnosing and treating mental disorders [9, 10]. This is specifically of relevance in communities with small or previously non-existent budgets for mental health.

Previous studies for community mental health demonstrated that mental health training had a significant effect on non-specialist workers' capacities such as knowledge and clinical practice [11–13]. A previous systematic review enrolling 29 studies showed that training non-specialist workers in mental healthcare improved knowledge, attitude, skills, and confidence as well as clinical practice and skills [14]. Nevertheless, still little information is available on what type of mental health training is specifically associated with the improvement of such capacities. Japan reportedly has a poor quality of community mental health [15, 16], and such information is crucial to improve the mental health service. In the present study, we studied web-based survey data of 495 public health workers in Japan to examine training types associated with knowledge/experience to support individuals with mental disorders.

Methods

Sample

We analyzed data from a cohort of public health workers working at community centers in Japan who underwent a cross-sectional, web-based survey in 2018. The survey was approved by the National Center of Neurology and Psychiatry Institutional Review Board (A2018-097). A total of 643 public health workers were asked to participate, and 148 (23.0%) of them did not complete the survey. Thus, we analyzed data of 495 public health workers.

Lack of knowledge/experience

Respondents self-reported if they felt a lack of knowledge/experience enough to support individuals with mental disorders. They are asked to select either of (1) 100-80%, (2) 79-60%, (3) 59-40%, (4) 39-20%, (5) seldom, (6) not at all, or (7) not sure. Endorsing (1), (2), or (3) constituted a lack of knowledge/experience.

Mental health training program

Respondents self-reported if they had ever attended training about mental disorder, screening/assessment, counseling, psychosocial support, coordinating, or law/regulation. They were asked to select all that apply.

Sociodemographic factors

Respondents self-reported sociodemographic factors, including sex, age (29 years or younger, 30-39 years, 40-49 years, 50 years or older), years of experience (continuous), mental health full-time worker status (yes/no), community population (50,000 or smaller, 50,000-200,000, 200,000-500,000, 500,000-1000,000, 1000,000 or larger).

Statistical analysis

Baseline characteristics of participants who had a lack of knowledge/experience and those who did not were compared by using independent-sample t-tests and chi-square tests. Multivariable logistic regression analysis was conducted to evaluate the association between lack of knowledge/experience (outcome) and mental health training (exposure). We fitted three regression models. Model 1 evaluated unadjusted associations. Model 2 adjusted for age and sex. Model 3 adjusted for age, sex, years of experience, mental health full-time worker status, and community population. The results are presented as odds ratios (OR) with 95% confidence intervals (CI).

Results

Baseline characteristics

Table 1 shows the baseline characteristics of respondents. A total of 308 respondents (62.2%) self-reported a lack of knowledge/experience. Individuals with lack of knowledge/experience showed fewer years of experience ($p < 0.001$), lower proportion of mental health full-time workers ($p = 0.001$), training about mental disorder ($p < 0.001$), screening/assessment ($p = 0.005$), psychosocial support ($p = 0.03$), and law/regulation ($p = 0.001$). Two groups significantly differed in age ($p < 0.001$). No significant difference was shown in sex, community population, and training about counseling and communication.

Relationship between knowledge/experience and training types

Table 2 summarizes the results of multivariable logistic regression analyses. For all training types, the association between lack of knowledge/experience and mental health training attenuated as the model developed (i.e., Model 1 showed the smallest odds ratio). In Model 3, lack of knowledge/experience was significantly associated only with training about mental disorder and screening/assessment (OR, 0.54; 95% CI, 0.33-0.90: and OR, 0.63; 95% CI, 0.40-0.97, respectively).

Discussion

To our knowledge, this is the first study evaluating the efficacy of specific types of mental health training in public health workers in Japan. Among various types of mental health training, only training about mental disorder and screening/assessment was significantly associated with the sense of knowledge/experience after the adjustment of potential confounders. These findings are in line with past reports showing significant effects of mental health training on non-specialist workers' capacities, e.g., knowledge and clinical practice [11–14], but information on a specific type of training was sparse.

Although our finding came from Japan and may not be easily generalizable to other countries where the basic education system is different, the present study implies that the concept-/assessment-oriented training may be effective (even without skill-based training) in promoting confidence in public health workers in terms of the sense of knowledge/experience. Indeed, the mhGAP intervention guide for non-specialist workers recommends conducting an assessment as one of the essentials of mental health clinical practice [17]. Our finding supports this recommendation from the viewpoint of training efficacy. To note, training about mental disorder and screening/assessment may improve knowledge directly related to mental illness, and hence, may effectively enhance the confidence of public health workers. Such knowledge may be more crucial for public health workers than indirect topics such as coordinating or law/regulation.

Japan has the highest number of psychiatric beds per capita in the world [18], which may co-occur with polypharmacy and long-term hospitalization [19, 20]. Hospital discharge and transition to the communities have been warranted to achieve patient-centered care [21]. To achieve this, the “Reform Vision of Mental Health and Welfare” was released in 2004 [22]. However, Japan still has an average psychiatric hospitalization duration of 265.8 days as of 2019 [23], partly resulting from insufficient community support [16, 24]. The potential approach to improve public health workers' capacities shown in the present study may have clinical implications in enhancing the quality of community mental health in Japan.

Limitations

Several limitations should be acknowledged here. First, lack of knowledge/experience was measured by subjective manner, which may not reflect the actual capacity of public health workers, and may have been vulnerable to recall and social desirability biases. Second, both lack of knowledge/experience and mental health training were self-reported via a single-item questionnaire. Third, this study is based on cross-sectional web-based survey data that does not allow to ascertain the temporal order of events or make causal inferences. Fourth, it is not clear if the subjective knowledge/experience of public health workers correlates with an improved outcome for patients with mental disorders.

Conclusions

Despite these limitations, we believe that the present study provides meaningful information that training about mental disorder and screening/assessment may lead to knowledge/experience of public health

workers. Further studies should employ a longitudinal design with a larger sample.

Declarations

Ethics approval and consent to participate

The present study was approved by the National Center of Neurology and Psychiatry Institutional Review Board (A2018-097). Informed, written consent was obtained from each study participant.

Consent for publication

Not applicable.

Availability of data and materials

Not applicable.

Competing interest

None.

Funding

The present study was supported by the Health Labour Sciences Research Grant.

Authors' contributions

Initial research questions were devised by YK. Analyses were conducted by ZN. The manuscript was written by ZN and finalized by YK and with substantial text contribution from all authors.

Acknowledgements

We wish to thank Dr. Keiko Shimazu for her assistance in implementing the research.

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Tables

Table 1 Baseline characteristics of study participants

	Lack of knowledge/experience		<i>P</i> value
	Yes (<i>n</i> = 308)	No (<i>n</i> = 187)	
Sex, No. (%)			0.08
Male	47 (15.4)	40 (21.5)	
Female	259 (84.6)	146 (78.5)	
Age, No. (%)			< 0.001
-29	77 (25.0)	14 (7.5)	
30-39	99 (32.1)	49 (26.3)	
40-49	78 (25.3)	60 (32.3)	
50-	54 (17.5)	63 (33.9)	
Years of experience, mean (SD), y	13.2 (9.6)	19.5 (10.3)	< 0.001
Mental health full-time worker, No. (%)			=0.001
No	202 (66.2)	95 (51.4)	
Yes	103 (33.8)	90 (48.6)	
Community population, No. (%)			
-50,000	120 (39.0)	56 (30.1)	0.09
50,000-200,000	106 (34.4)	62 (33.3)	
200,000-500,000	42 (13.6)	33 (17.7)	
500,000-1000,000	17 (5.5)	21 (11.3)	
1000,000-	22 (7.1)	14 (7.5)	
Training type, No. (%)			
Mental disorder	212 (68.8)	153 (82.3)	< 0.001
Screening/assessment	72 (23.4)	55 (34.9)	0.005
Counseling	191 (62.0)	126 (67.7)	0.20
Psychosocial support	97 (31.5)	76 (40.9)	0.03
Communication	135 (43.8)	91 (48.9)	0.27
Law/regulation	90 (29.2)	81 (43.5)	0.001

Table 2 Associations between lack of knowledge/experience and mental health training

Lack of knowledge/experience	
Odds ratio	
[95% confidence interval]	
Model 1, unadjusted	
Training type	
Mental disorder	0.48** [0.30-0.74]
Screening/assessment	0.58** [0.38-0.88]
Counseling	0.78 [0.53-1.14]
Psychosocial support	0.67* [0.46-0.97]
Coordinating	0.81 [0.57-1.17]
Law/regulation	0.54** [0.37-0.78]
Model 2, adjusted for age and sex	
Training type	
Mental disorder	0.51** [0.32-0.82]
Screening/assessment	0.62* [0.42-0.95]
Counseling	0.83 [0.56-1.25]

Psychosocial support		0.67*	
		[0.45-0.9998]	
Coordinating		0.94	
		[0.64-1.38]	
Law/regulation		0.63*	
		[0.42-0.93]	
Model 3, adjusted or age, sex, years of experience, full-time worker status, and community population			
Training type			
Mental disorder	0.54*		
	[0.33-0.90]		
Screening/assessment	0.63*		
	[0.40-0.97]		
Counseling	0.76		
	[0.49-1.18]		
Psychosocial support	0.73		
	[0.48-1.12]		
Coordinating	0.98		
	[0.65-1.47]		
Law/regulation	0.73		
	[0.48-1.12]		

☐ $p < 0.05$.

☒ $p < 0.01$.