

Health Emergency Management Leadership Training Demands in Guangxi: A Non-random Sampling Survey

Wei Bo¹, Wu Weimin², Feng Qiming³, Liu Decheng⁴, Zhou Yang⁵, Hu Xueying⁶, Han Xinxin⁷

^{1,2,3,4,5,6,7}School of Public Health, Guangxi Medical University, Nanning, P.R.China, 530021
(Email: weibogx@163.com, wwmin1@163.com, fengqm1963@163.com, gxzhouy@163.com, angelinahxy@163.com, jellyhon@gmail.com)

Abstract

The purpose of this study is to investigate and analyze the training demands on health emergency management leadership and then serve as a foundation for scientifically developing training programs for health emergency management leaders in Guangxi. Non-random sampling was used to conduct a questionnaire survey on 265 health emergency management leaders of all regions, districts, and counties in Guangxi. The contents of the questionnaires included training courses, times, approaches, methods, trainer workforce, assessment approaches, and graduation identifications. The results of this study indicated that the stress of training courses included the basic knowledge on health emergency, response and management on health emergency, and methodology and technology on health emergency management. High demands on case studies, desktop maneuvers, and symposiums of training methods were 95.4%, 92.3%, 83.3%, respectively. Short-term intensive training had the highest demand (76.6%) among all training approaches. Of these 265 participants, 98.5% chose national experts as trainers, 46% chose problem-solving stimulation as assessment approach, and 76% chose certificate issuing as graduation identification. Therefore, basic knowledge on health emergency, response and management on health emergency, and methodology and technology on health emergency management should be considered as the stress of training courses. Training methods should be selected appropriately according to different demands. Short-term intensive training should be considered as training approach. Trainers should be considered as national experts who have rich

practical experience and theoretical knowledge. Problem-solving stimulation should be considered as assessment approach. Certificate issuing should be considered as graduation identification.

Key Words: Health emergency management, Training demands, Management leaders

1. Introduction

With the rapid development of social economy in Guangxi, various health emergencies have occurred frequently, posing serious threats on population health and life security [1-3]. While in Guangxi currently, leaders of health emergency management are mostly selected from healthcare staff. The traditional education and training models for health emergency management leadership are challenged by the specialization and scientific of modern health emergency management. This study aims to develop a set of new training models for health emergency management leadership and conduct a survey on demands of health emergency management leadership training at all levels of departments of health administration, medical institutions, Centers for Disease Control, health supervision authorities, and centers for emergency assistance in Guangxi.

2 Methods

2.1. Participants

Non-random sampling was used to select 265 health emergency management leaders who were responsible for emergency management of relevant health institutions in all regions,

districts and counties in Guangxi, including departments of health administration, medical institutes, Centers for Disease Control, health supervision authorities, and centers for emergency assistance.

2.2 Questionnaires

The self-administered structured questionnaire, including two parts of training courses and methods, were distributed and conducted by Ministry of Health of Guangxi and Departments of Health of municipalities and counties in Guangxi. The questionnaires contents mainly included training courses, times, approaches, methods, trainer workforce, assessment approaches, and graduation identifications. The design of the training courses was according to the criteria of Health Emergency Management Leadership Training Program (Ministry of Health, China). The demands of training times, methods, trainer workforce, and assessment approaches were investigated among health emergency management leaders. All questionnaires were completed by the health emergency management leaders and collected back after checking and signing by investigators.

2.3 Statistic analysis

Epidata 3.0 was used to create database, and SPSS 13.0 was used to conduct statistic analysis.

3 Results

265 questionnaires were distributed in total and all of them were collected back finally, yielding a response rate of 100%. Of these, 265 were qualified, yielding an effective responses

rate of 100%.

3.1 Basic Information

Of these 265 participants, the average age were 42.5 ± 6.3 , and the average working year for health emergency management were 8.0 ± 6.5 . Among them, 227 (85.7%) were male and 38 (14.3%) were female. 127 (48.3%) participants majored on clinical medicine, and 103 (38.4%) on preventive medicine, while only 12 (4.6%) on health emergency management. 78 (29.4%) participants were with senior professional title, 142 (53.6%) were with intermediate title, 39 (14.7%) were with primary title, and 6 (2.3%) were non-title. 147 (55.47%) participants were undergraduate educational background. 81 (30.6%) participants were from departments of health administration, 73 (30.6%) were from medical institutes, 53 (20%) were from Centers for Disease Control, 51 (19.2%) were from health supervision authorities, and 7 (2.6%) were from centers for health emergency.

3.2 Training courses demands

3.2.1 Demands on health emergency management training

The results demonstrated that more than 98% of participants considered basic theory of health emergency management as training courses according to different demands degree, with more than 60% extremely needed. The function and responsibility of health emergency organization system was at the highest rate (94.7%) (see Table 1)

	Extremely needed N (%)	Needed N (%)	Never needed N (%)
<u>Basic Theory of Health Emergency Management</u>			
The conception and characteristics of public emergency and public health emergency	222 (83.8)	40 (15.1)	3 (1.1)
The conception, significance and building principles of health emergency system	236 (89.0)	28 (10.6)	1 (0.4)
The related regulations and significance of building a legal system for health emergency management	238 (89.8)	26 (9.8)	1 (0.4)
The function and responsibility of health emergency organization system	251 (94.7)	13 (4.9)	1 (0.4)
Health emergency research management	182 (68.7)	76 (28.7)	7 (2.6)
The national and overseas health emergency characteristics and tendency	206 (77.7)	55 (20.8)	4 (1.5)
The national and overseas health emergency management research progress	171 (64.5)	88 (33.2)	6 (2.3)

Re: missing data existed; N, number of participants

Table 1: Constituent Ratios of Demands on Basic Theory of Health Emergency Management

3.2.2 Demands on prevention, preparedness, response, and rehabilitation of public health emergency.

99.7% of participants considered risk management and surveillance of health emergency to be needed or extremely needed (70%). 90% participants considered response preparedness to be needed or extremely needed (60%), with higher demands on human resources development (86.5%), preparedness planning (84.5%), pre-event surveillance (82.9%), and goods storage (79.6%), respectively. 90% and 70% participants considered emergency response and rehabilitation to be needed or extremely needed, respectively, with higher demands on on-the-spot organization and conducting (90.3%), risk communication (80%), laboratory management (70.1%), emergency management evaluation contents and related theories (84.5%), and emergency evaluation methods and tools development (82.3%), respectively.

3.3 Demands on training times

The results of this study indicated that the best intensive training times according to participants' responses were twice per year (interquartile range $Q = 1$). The least time was once per year, and the most times were 6 times per year. The median of the best training time were 5 days ($Q = 4$). The least time was 1 day, while the most time were 40 days.

3.4 Demands on training methods

Demands on four types of training methods were investigated, including case study, symposiums, group discussion, and desktop maneuvers. The results indicated that case study (95.4%), desktop maneuvers (92.3%), and symposiums (83.3%) were on higher demands, while the lowest demand was group discussion (76.4%). Short-term intensive training (76.6%), national study (51.9%), and academic conference/symposium (37.9%) had the highest demands among eight training approaches (see Table 2).

Training Methods and Types	Extremely needed	High needed	Needed	Low needed	Never needed
	N (%)	N (%)	N (%)	N (%)	N (%)
Case Study	191 (72.6)	60 (22.8)	12 (4.6)	0 (0.0)	0 (0.0)
Desktop maneuvers	168 (64.6)	72 (27.7)	17 (6.5)	3 (1.2)	0 (0.0)
Symposium	133 (50.6)	86 (32.7)	40 (15.2)	4 (1.5)	0 (0.0)
Group discussion	101 (38.4)	100 (38.0)	55 (20.9)	6 (2.3)	1 (0.4)
Short-term intensive training	200 (76.6)	47 (18.0)	11 (4.2)	2 (0.8)	1 (0.4)
National study	134 (51.9)	61 (23.6)	49 (19.0)	12 (4.7)	2 (0.8)
Academic conference/symposium	96 (37.9)	86 (34.0)	53 (20.9)	14 (5.5)	4 (1.6)
Half Full-time Training	60 (23.9)	52 (20.9)	92 (36.7)	22 (8.8)	25 (10.0)
Overseas Study	68 (27.1)	39 (15.5)	72 (28.7)	39 (15.5)	33 (13.1)
Distance/Online Training	41 (16.3)	60 (23.8)	101 (40.1)	31 (12.3)	19 (7.5)
Full-time Training	92 (36.5)	24 (9.5)	63 (25.0)	32 (12.7)	41 (16.3)
Material Training	33 (13.2)	44 (17.6)	105 (42.0)	40 (16.0)	28 (11.2)

Re: missing data existed; N, number of participants

Table 2: Constituent Ratios of Demands on Training Methods and Forms

3.5 Demands on trainer workforce

Demands on four types of trainer workforce were investigated, including health emergency management leaders, national experts, university professors, and international experts.

Among all participants, higher demands were on national experts and health emergency management leaders, which were 61 (98.5%) and 107 (40.4%), respectively, and lower demands were on international experts and university professors, which were 26 (9.8%)

and 34 (12.8%), respectively.

3.6 Assessment approaches and graduation identifications

122 (46%) and 106 (40%) participants considered problem-solving stimulation and examinations as assessment approaches, respectively. However, only 27 (10.2%) and 65 (24.5%) considered assays and reports as assessment approaches, respectively. As graduation identification included certificate issuing and credits granted, 76.5% of participants considered certificate issuing as graduation identification.

4 Conclusion

Health emergency training is the core of health emergency preparedness because it can effectively improve professional competencies of health emergency management staff and provide necessary technical storages and guarantees [4-7]. Therefore, training demands survey is the primary step and foundation of the whole training progress, i.e. training demands survey and evaluation determine the quality of the whole training [8]. This study aims to provide guidelines for scientifically conducting continuing emergency training programs according to the analysis of health emergency management leadership training demands in Guangxi. The results of this study indicated that the stress of training courses should be basic knowledge on health emergency, response and management on health emergency, and methodology and technology on health emergency management. Short-term intensive training should be considered as training approach with the integration of other training methods. Trainers should be national experts who have rich health emergency management practical experience and theoretical foundation. Problem-solving stimulation should be considered as assessment approach. Certificate issuing should be considered as graduation identification. As training progress is regarded as developed, integrated, interacted, and facilitated, in that every step will affect the whole outcome [9].

Therefore, good pre-training demands analysis, design, and planning will certainly improve the training quality and outcomes, as well as the emergency professional development.

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