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Health Education and Health Promotion for Workers in the Workplaces in Taiwan

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Workers are at risk for developing diseases from health hazards in the work environment, and health promotion is the first step in the prevention of diseases. According to the regulations in Taiwan, business establishments with 300 employees or more or with 100 employees or more engaged in hazardous tasks should have on-site health-care unit. Health promotion is one of the main functions of these units, and all units are required to have at least one occupational health nurse. This study used a questionnaire survey of health education and health promotion in the workplace. We mailed questionnaires nurses practicing in on-site health-care units according to a list provided by the Department of Health (DOH). Telephone interviews were conducted with those who did not respond to the mailed questionnaire. Among the 615 nurses listed by DOH, 86 have left the job without replacements. Among the rest, 295 (55.8%) responded, and most of them (89.2%) worked full-time. Whereas many of the nurses were involved in the proposal (69.9%) and decision making (61.4), a substantial number were not involved at all. The other key persons in health promotion were the safety personnel, with 13.9% of them taking full charge of making proposal and 13.6% taking full charge in making decisions. The most common health promotion program was routine health check-up (63.7%), followed by healthy diet (46.1%) and weight control (40.3%). A more active role should be taken by the nurses in the health education and health promotion activities in the workplace.

Keywords: *health promotion, worker, workplace*

1. Introduction

The Working Well Trial in the U.S. has demonstrated the contribution of health promotion in the workplace to workers' health[1,2]. In 1998, Japan passed the Occupational Health and Safety Law, which puts health promotion in the workplace amongst occupational safety measures and regards it as an obligation of employers. However, the government applies the encouragement approach and does not implement punishment[3]. In Taiwan, the old concept of occupational health focuses on the prevention of occupational diseases and emphasizes protecting workers and minimizing exposure to health hazards. The modern concept of occupational health, however, covers health promotion[4]. Health promotion is the first step in preventing diseases, and health promotion in workplace is an important element of occupational safety and health.

To promote occupational safety and health, the Taiwan government implemented the Workers' Health Protection Regulation. Accordingly, factories with more than 300 employees or with more than 100 employees engaged in 11 specific hazardous tasks are required to establish on-site health-care units and hire certain number of health professionals depending on the number of employees. These units should serve eight specific functions, and the first one is to design and execute health education, health promotion, and health consultation programs[5].

The Taiwanese government has sponsored research projects on health promotion in the workplace, including a study on models of implementing health promotion[6] and an intervention of healthy diet through

health promotion activities[7]. The objective of this study is to evaluate the current state of health education and health promotion programs in the workplace in Taiwan.

2. Materials and Methods

This study performed a nationwide survey using a standard questionnaire to collect data from health professionals working in the on-site health-care units. As health professionals need to register in the Department of Health (DOH) in order to practice in Taiwan, this study obtained a list of all nurses and physicians practicing in those units from the DOH. A questionnaire was mailed to the candidates, and a second questionnaire was mailed three weeks later if we did not receive a response. If we still failed to receive a response three weeks later, we would call the candidate at the workplace. A third questionnaire will be mailed if consent of participation was obtained through the phone. If the candidate refused to fill out the questionnaire by hand, the questionnaire survey would be conducted by a trained interviewer by phone.

The questionnaire was used to collect the basic information on both the health professional and the business establishment or factory; the manpower, facility, function, and resources of the health-care unit; the health related behaviors of the health professional; the health professional's concept and attitude towards health promotion; the health promotion activities held in the workplace; and the difficulties the health professional encountered in executing health promotion tasks. The questionnaire had been validated by an expert panel and pre-tested at two hospitals before being applied to the study.

3. Results and Discussion

Among the 615 nurses listed by DOH, 86 have left the job without replacements. Among the rest, 295 (55.8%) responded, and most of them (264; 89.2%) were full-time employees. In the proposal of health promotion activities, 99 (33.4%) of the nurses took the full charge, and 108 (36.5%) worked with others, making 69.9% of the nurses involving in the proposal of health promotion programs (Table 1). In the decision-making on health promotion programs 93 (31.4 %) of the nurses had the full authority, and 89 (31.0%) made decision with others, making 61.4% of the nurses were involved in the decision-making on health promotion programs. However, a substantial number of the nurses were not involved at all (30.1% and 38.6% respectively). The other key person in health promotion was the safety personnel, with 13.9% taking full charge of making proposal and 13.5% taking full charge in making decisions.

The most common health program was routine health check-up (63.7% of the establishments), but the regulations actually require such measures for all workers. Healthy diet (46.1%) and weight control (40.3%) were the second and third most common programs, and they are in fact quite related. Exercise programs were implemented in 38.6% of the establishments.

The on-site occupational health nurses were mostly between 25 and 34 years of age. While most of them had sufficient clinical experiences, more than 90% of them did not have experience of working in communities. Only 60% of them have received training in occupational nursing required by the government, and the proportions of those who have received various trainings in health promotion were all below 20%. Therefore, there was a lack of training. Only about 10% of them were placed in health care units, and most of them were placed in occupational safety units, followed by logistics units. In fact, 20% of them were placed in personnel units. Therefore, the majority are not expected to have a supervisor with health backgrounds. While most of the nurses were involved in the health education and health promotion programs and many of them played a decisive role in the planning, only a small proportion of them played an important role in making the occupational health policy. Therefore, their involvement in health policy making should be improved.

The response rate in physicians was much lower. Many of them simply provided general ambulatory care and left immediately when the out-patient session was over. Most of them did not involve in other affairs, let alone health promotion programs. Most of them were more 65 years old, and many took the job after they had retired from another post. Whereas they generally had a long clinician career, about 70% of them did not have experience in public health. While about 80% of them have received training in occupational medicine, the proportions of those who have received various trainings in health promotion were all below 40%. Therefore, there was a lack of training. Only about 25% of them were placed in health care units, even though they worked full-time. Less than 30% of them were involved in health education and health promotion programs, and most of them were not involved in making occupational health policy.

Therefore, like the nurses, their involvement in the health policy making should be improved. A major contribution of this study is demonstrating the gap between regulation and practice. With the intention of promoting the health of workers, the Workers' Health Protection Regulation in Taiwan has not fulfilled its goal due to the fact that many employers do not get health professional involved in the health policy planning, even though it puts "design and execute health education, health promotion, and health consultation programs for workers" as the first task of the health professionals.

Table 1 Operation of workplace health education and health promotion programs in Taiwan.

Question		Number	%
Who makes the proposals?	Physician	3	1.0
	Nurse	99	33.4
	Industrial hygienist	40	13.5
	Worker	6	2.0
	Manager	26	8.8
	Other	6	2.0
	Multiple, including a nurse	102	34.5
	Multiple, not nurses	7	2.4
	No answer	7	2.4
Who makes the decisions?	Physician	8	2.7
	Nurse	93	31.4
	Industrial hygienist	40	13.5
	Worker	5	1.7
	Manager	50	16.9
	Other	5	1.7
	Multiple, including a nurse	83	28.0
	Multiple, not nurses	6	2.0
	No answer	6	2.0

The major limitation of our study is the response rate. While this study has used both mail and telephone contacts, without an attractive incentive, it is hard to increase the rate further. This study was funded by the Department of Health, and the funding agency prohibited the distribution of gifts as incentives. Nonetheless, most previous mailed questionnaire surveys in Taiwan have response rates lower than 20%, and our response rate was much higher than that. Still, the representativeness of the data might be compromised by the response rate, especially in physicians, who had a relatively lower response rate. To evaluate the completeness of the health professional list we received from the Department of Health,

This study obtained the most updated list of registered nurses from the Tainan City government and found a complete match. Therefore, we are confident that the list we obtained was update and complete.

4. Conclusion

The most common health program implemented in the workplace in Taiwan was routine health check-up, followed by healthy diet and weight control. Whereas most of the occupational health nurses were full-time employees, a substantial number were not involved in the proposal or decision making of health education and health promotion programs in the workplace. The participation of physicians was even much less. There was a general lack of professional training in health education and health promotion among the nurses and physicians working in the business establishments. Therefore, a more active role such as taking charge of the health policy making is encouraged in the health promotion activities among workers to make a better use of the professionals in the workplace, while professional training in health education and health promotion of these personnel are needed.

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