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Health Empowerment Program Among Security Personnel at A Public University

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ABSTRACT

The shift in the national health focus from curative towards prevention and wellness has sustained the importance of health-promoting activities, such as health empowerment programs which have been an important element in contributing to developing health-prioritizing mindsets in due respect with myriads of occupational factors. This has justified the need for frontlines type of work, especially security personnel to be continuously instilled with health and safety related information. Thus, three series of health empowerment programs were conducted among security personnel at the Universiti Malaysia Sabah. The health empowerment program aimed to compare the knowledge, attitude and practice scores, before and after the series of programs had been duly conducted. This intervention study was conducted over three consecutive weeks, which involved pre- and post-evaluation of the knowledge, attitude and practice elements of three domains of topics, which were Occupational Safety and Health awareness, noncommunicable and communicable diseases. Data analysis was conducted by using SPSS version 29 and a paired T-test was conducted to determine the mean score outcomes and its significant differences. Overall, this study has been pioneered among small numbers of security personnel due to duty constraints. In a 90% response rate, there were significant differences in the

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pre-and post-test mean score outcomes of knowledge and attitude elements in the series of noncommunicable diseases and practice elements in the series of communicable diseases. The health empowerment program was deemed significant instead of being treated as a non-pivotal element in ordinary health-related courses.

INTRODUCTION

Every security personnel who was on duty would be predisposed to a plethora of threats (Manandhar et. al., 2021; OSHA 3335-10N 2007; WHO Europe 2002). The potentially occurring Occupational Health (OH) hazards within the study population area of protection included road accidents and sudden emergencies related to zoonoses such as dog bites, bee stings, spider venoms and even snake bites which had also been described by Hussain et. al., 2020. This occasionally rendered them the ones to lead the scene while waiting for appropriate aids to come over, such as the ambulance and firefighters. They would be the ones to whom everyone within their area of protection to be reached whenever an emergency occurred. Apart from that, several types of OH hazards were associated with security personnel. The OH hazards can be classified into a few types, which are physical, biological, chemical, ergonomic and psychological (Manandhar et. al., 2021).

There were significant influences of occupational factors among occupants in various broad occupations including the security duty natures. Occupants of different sectors tended to be developing or inculcating various modes of dietary patterns, socializing norms and within-society adaptation (Parkash et. al., 2019). Epidemics of NCDs and CDs in every locality of origin could have been continuously widespread in societies if preventive measures were conducted.

The above-mentioned factors suggested the need for the security personnel to be equipped with health educational information for mutual benefits among the employer and employees to prevent subsequent losses due to sickness and mishaps and to promote health (WHO Europe 2002; OSHA 3335-10N 2007). Health empowerment activities within workplaces would be an example of good OH practices that should be conducted to improve the quality of life among employees. The improvement in a healthier workforce would be reflected through decreased absenteeism, indirectly increasing workers' working performances (International Well-Being Insights 2019; OSHA 3335-10N 2007; WHO Europe 2002). It would also lead to changes at both individual and organizational levels (International Well-Being Insights 2019; OSHA 3335-10N 2007; WHO Europe 2002).

Due to this, three series of train the trainer (TTT) health empowerment programs were conducted, which started with the Occupational Safety and Health (OSH) awareness series, followed by non-communicable (NCD) and communicable diseases (CD). All three series of health empowerment programs were to inseminate the knowledge, attitude and practice (KAP) information against minimizing the risk of OH hazards among the security personnel of a public university setting.

Meanwhile, the pre-and post-evaluation of outcomes of the health empowerment program were conducted. The knowledge, attitude and practice (KAP) scores in the three series of health empowerment programs were evaluated and compared, before and after each series of programs.

MATERIALS AND METHODS

Study Design, Setting & Participants

The health empowerment program has served to be an intervention study among security personnel at the Universiti Malaysia Sabah. The health empowerment program involved three main series, which were the OSH awareness,

the NCDs and CDs. The three series of health empowerment were pioneered in a train-of-trainer program. The health empowerment program fulfilment would be based on modules developed specifically meant for the targeted study participants. During the series of health empowerment activities, data scoring for knowledge (K), practice (P) and attitudes (A) were also conducted before and after each main subject of the health empowerment talks. Questionnaires were adapted from similar literature. The KAP elements in the three series of health empowerment programs were assessed among the participants through the pre- and post-questionnaires, during the intervention study. The questionnaires in the three series of health empowerment programs, contained three main elements, as the following: (a) knowledge (10 items), (b) attitude (10 items) and (c) practice (10 items). There were two different types of questions namely, 'Yes' or 'No' questions for knowledge questions and 'Likert Scale' for attitude and practice questions. The scoring scales for the main elements were listed as follows:

Knowledge Scales

For knowledge questions, 1 point was given for correct answers, and 0 points were given for wrong answers. A total of 23 scores were given for knowledge questions. The score ranges for knowledge (Paul et. al., 2022) were categorised as the following:

- High Knowledge: 7 – 12 (85% -100%
- Medium Knowledge: 5 – 6 (60% - 84%)
- Low Knowledge: ≤4 (≤59%)

Attitude Scales

For attitude questions, 0 points were given for those who answered, 'Strongly Disagree', 1 point for 'Disagree', and 2 points for 'Agree' and 'Strongly Agree'. A total of 50 scores were given for practice questions. The score ranges for attitude (Paul et. al., 2022) were categorized into:

- Positive Attitude: 17 – 25 (70% - 100%)
- Negative Attitude: ≤16 (≤69%)

Practice Scales

For practice questions, 0 points were given for those who answered, 'Strongly Disagree', 1 point for 'Disagree', 2 points for 'Agree' and 3 points for 'Strongly Agree'. A total of 60 scores were given for practice questions. The score ranges for practice (Paul et. al., 2022) were categorized into:

- Good Practice: 27 – 30 (70% - 100%)
- Poor Practice: ≤26 (≤69%)

Dependent Variables

The pre-and post-KAP scores were generated by every participant in the three series of health empowerment programs.

Independent Variables

Module developed by every speaker in the three series of health empowerment programs and mode of presentation conducted by every speaker during the entire intervention study.

Sample Size Calculation & Sampling Technique

The sample size was determined based on Krejcie and Morgan (1970) sample size formulae. With a population of 10, the sample size is 10.

Data Analysis

The knowledge, attitude and practice (KAP) scores were obtained by total addition of every score as given in the health empowerment scales (as shown above). Scores for each element were compiled, and mean score and significance differences were identified by paired T-tests, SPSS version 29.0. P-value <.05 was considered statistically significant.

Ethical Approval

The approval code was JKEtika 1/23 (13) given by the Faculty of Medicine and Health Sciences of the Universiti Malaysia Sabah. In addition, research activity consent was also submitted and approved by the public university setting

security division.

Table 1: The Paired Sample Test of Mean Knowledge, Attitude and Practice Scores of OSH Awareness Series (n=10)

Variable	Mean (SD)		Mean Diff. (95% CI)	*t*-statistics (*df*)	p-value
	Pre	Post			
OSH Awareness Knowledge Scores	8.63 (.518)	6.75 (4.166)	1.875 (-1.570, 5.320)	1.287 (7)	.239
OSH Awareness Attitude Scores	17.75 (.707)	17.00 (2.828)	.750 (-1.768, 3.268)	.704 (7)	.504
OSH Awareness Practice Scores	20.56 (3.087)	21.67 (3.775)	-1.111 (-5.001, 2.779)	-.659 (8)	.529

*Paired sample t-test, significant if p<0.05.

Table 2: The Paired Sample Test of Mean Knowledge, Attitude and Practice Scores of NCD Series (n=10)

Variable	Mean (SD)		Mean Diff. (95% CI)	*t*-statistics (*df*)	p-value
	Pre	Post			
NCD Knowledge Scores	6.13 (2.100)	8.13 (1.246)	-2.000 (-3.341, -.659)	-3.528 (7)	.010
NCD Atti-tude Scores	14.13 (4.086)	18.38 (3.335)	-4.250 (-7.465, -1.035)	-3.126 (7)	.017
NCD Prac-tice Scores	14.75 (1.753)	16.63 (1.923)	-1.875 (-4.216, .466)	-1.894 (7)	.100

*Paired sample t-test, significant if p<0.05.

Table 3: The Paired Sample Test of Mean Knowledge, Attitude and Practice Scores of CD Series (n=10)

Variable	Mean (SD)		Mean Diff. (95% CI)	*t*-statistics (*df*)	p-value
	Pre	Post			
CD Knowledge Scores	9.67 (.707)	9.44 (.527)	.222 (-.290, .735)	1.000 (8)	.347
CD Attitude Scores	13.33 (1.500)	12.89 (1.537)	.444 (-1.403, 2.292)	.555 (8)	.594
CD Practice Scores	14.56 (3.005)	18.44 (3.609)	-3.889 (-7.400, -.378)	-2.554 (8)	.034

*Paired sample t-test, significant if p<0.05.

RESULTS

There were no significant differences in the pre-and post-mean knowledge (p=.239), attitude, (p=.504) and practice scores (p=.529) in the series of OSH awareness health empowerment programs. This is shown in Table 1.

Alternately, there were significant differences in the pre-and post-mean knowledge (p=.010) and attitude (p=.017) scores in the series of NCDs' health empowerment programs. However, there were no significant differences in the pre-and post-mean-practice (p=.100) scores in the series of NCDs health empowerment programs. This is shown in Table 2.

On the other hand, there were no significant differences in the pre-and post-mean knowledge (p=.347) and attitude (p=.594) scores in the series of CD health empowerment programs. However, there were significant differences in the pre-and post-mean practice (p=.034) scores in the series of CD's health empowerment program. This is shown in Table 3.

DISCUSSION

The conflict in health empowerment of programs if not thoroughly tackled, would otherwise resemble the teacher-class conventional activities (O'Connor et. al., 2015). However, it would be rather difficult to simply reach out to big communities in tremendous moves such as having big and wide-scale health empowerment activities. Potential barriers might exist on a big scale, and among two and possibly multiple ways of interaction most probably among the presenter and the participants. Thus, training the trainer's health empowerment program would surpass the setbacks that might occur during the process (Brendsetter et. al., 2015; O'Connor et. al., 2015). The idea would be that, through peer power, every health-related information could be shared, circulated and multiplied within their working community (O'Connor et. al., 2015).

The duty nature and shortage of manpower of the current setting security personnel have served to be the limiting factors for the entire security division participation. Thus, the three series of health empowerment programs were pioneered among a small sample size of participants, in a train-of-trainer mode of intervention study. However, due to exclusion factors during the implementation of the intervention study, there have been inconsistencies in the attendance of participants on day one and day two in each series of topics. The overall rate of response is 90%.

A coordinated and comprehensive training module, which included activities to disseminate health and safety information, was designed to meet the occupational health and safety needs of the study population. The integration and coordination between OH and health promotion were needed at every organizational level to reach the public community with a blend of stipulated working sector relevant OH information. The OH scope to be emphasized should not be restricted only to the prevention of NCDs but should be expanded to improve the quality of total health among them.

This study assessed the KAP components about awareness of the risk of OSH among security personnel, in the first series of the program. The knowledge of OSH would be to assess the security personnel's uptakes on self-responsibility in protecting themselves against safety and health hazards. Whereas attitude towards OSH would likely be positive about any safety-related activities or training, and compliance with safety policies and regulations at work. Meanwhile, the practice of OSH at work includes an action that can prevent any accident from occurring (Mohd et. al., 2019). Of such, questions assessed in the pre and post-test were related to the awareness of their duty roles as to follow the Standard Operating Procedure (SOP), the awareness to abide by the rules to protect themselves and peer colleagues against health hazards and risk factors, the interest of attending the supplementing OSH and emergency aids, types of technical and theory seminars and importance of applying personal protective equipment (PPE) when getting exposed to hazardous material (Mohd et. al., 2019; My et. al., 2012; Paul et. al., 2022).

In the second series, the risk factors, and rate of incidences of global and Malaysian region's NCDs were discussed. The knowledge elements being assessed were the risk factors that lead to the development of NCDs such as heart disease and diabetes mellitus. The

attitude elements are inferred with the perceptions towards maintaining good health, through health screenings, having the ideal body mass index (BMI) by avoiding fast and processed food, the priority of selecting nutritious contents when doing groceries and preferences of active over lame lifestyles. Apart from that, practice elements assessed in the series of NCDs were preferences in living healthy lifestyles by having a balanced diet and maintaining physical activities (Mohammad et. al., 2018).

The third series of health empowerment programs was the CD topics which comprised Tuberculosis (TB), AIDS and Sexual Transmitted Infections (STIs). The knowledge elements of CDs being assessed were the respondents to know the causative agents of TB and STIs, in terms of bacteria causing its inflictions. The knowledge of how TB affects the human bodily organs and HIV invasions to human immunity system (Poudel et. al., 2015), the symptoms of TB and STIs, and know how AIDS and STIs (Al-Batanony, 2016; Das et. al., 2015; Demis et. al., 2017; Poudel et. al., 2015) can be contacted. In addition, to assess the knowledge on the importance of BCG vaccination in the prevention of TB. The attitude elements were to assess the behaviours of respondents in getting relevant information on TB, STI and AIDS, which in the meantime to avoid the wrong information about the diseases being stigmatized and circulated in the societies. The attitude also inferred the desire to share the knowledge of the CDs among their families and friends, and that themselves to promote good ventilation in secluded spaces to prevent transmission of airway diseases such as TB and to avoid random sexual activities, drug abuse and homosexual activities to prevent themselves from being contracted with HIV and STI. The practice elements of CDs being assessed were the respondents to have the correct knowledge of the facts of TB, AIDS and STIs. The fact that TB could be treated by medication if detected earlier, and aware of the symptoms of TB, have insights into how HIV (Poudel et. al., 2015), is spread in the community and the risk factors of STIs and wearing condoms in preventing contraction of STIs (Al-Batanony, 2016; Das et. al, 2015; Demis et. al., 2017; Poudel et. al., 2015).

Literature findings on separate studies of OSH awareness, NCDs and CD interventions were quite numerous, and KAP assessments simultaneously conducted with intervention research activities were relatively few in recent years. Inherently, a health empowerment program among security personnel of a public university, comprising OH-related topics would be a preponderance for innovation in module production of the health empowerment program. This study could be regarded as a pioneer study. This alternately provides room for extensive exploration and creativity of other studies bearing similar interests.

CONCLUSION

Having a good understanding of OH-associated predisposing health and safety concerns would contribute to targeting public health concerns regarding general and work-related diseases. Beyond that, it was hoped that working performances among the security personnel would be alleviated by promoting health qualities.

CONFLICT INTEREST

The authors have no conflicts of interest.

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