

Formative Research to Develop a Workplace Physical Activity Program in Vietnam: Protocol for a Mixed Method Study

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ABSTRACT

The importance of physical activity in the workplace has been raised by the World Health Organization. The aim of this formative evaluation is to develop a workplace-based physical activity program in Vietnam. A mixed method of quantitative and qualitative approaches will be applied in this study. Data will be obtained by face to face interviewing using a structured questionnaire with the current staff of the National Institute of Hygiene and Epidemiology, Hanoi, Vietnam. In addition, nine interviewees will be conducted with selected participants. This is the first study on physical activity in workplace in Vietnam. The study's results will elucidate the current understanding of the barriers, facilitators, and related factors to effective intervention strategies for promoting physical activity in workplace setting. The research

protocol was approved by the National Institute of Hygiene and Epidemiology Human Research Scientific Committee (Approval Number of 1678/QĐ-VSDTTU).

Keywords: Workplace physical activity, worksite setting, intervention, formative evaluation, Vietnam

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INTRODUCTION

Office-based is nowadays very popular employment mode worldwide (1). Many employees spend their majority working time on sedentary work (2). Recent studies showed that many office-based workers spend at least half to more than threequarters their workday on sitting (2, 3). The workplace plays an important role on employee health (4). It is, therefore, worksite is a critical setting for health program to reduce the burden of diseases, especially for non-communicable diseases (4, 5). Health promotion program for workplace setting needs to consider differences components, including behavioral factors, environmental nature, and policy (6). Therefore, the combination of physical, social environments and supportive organizational culture will effectively influence the change of positive behavior (4).

The World Health Organization (WHO) has emphasized the important of creating a healthy workplace (4). However, at the global situation the advantage of healthy workplace has not been well understood. Healthy workplace is not only important to individual workers but also to the strengths, and outcomes of the company or organizations. Consequently, it affects the national economy and also to the economy worldwide (4).

To date, some physical activity (PA) interventions in workplace setting were performed globally (7, 8). Those studies applied different intervention factors for workplace PA promotion (7), and showed improving not only physical activity but also psychological well-being (8). However, no template of framework to promote healthy lifestyle in office-based that can be followed. Although few basic guidelines and conceptual framework have been developed for widely applied, it is clear that different ideal concept for different organizations, and companies. Thus, workplace intervention strategies, and framework must be researched and designed to meet the various characteristics, modes, and scales of organizations (4).

Previous studies reported varying results of health program at worksite setting, depending on types of programs, and targeted groups (9). Studies on barriers and facilitators, and preferred strategies for worksite health program engagement and non-participation among employees is needed (10). In recognition the importance of healthy workplace, WHO has developed a general framework for healthy worksite setting, however, the framework is general guiding which need to be further developed to suit individual organization (4). Similar to many countries worldwide, Vietnam is lacking of those evidence-based information to develop effective health promotion program in the workplace (11).

In Vietnam, community-based physical activity program, resulting in significant improvement in physical activity after 6 month-intervention were reported (12, 13). However, study on workplace physical activity among employees has not been documented. The lack of formative research such as barrier, enablers, preferred strategies, and evidence-based framework for healthy program in workplace setting may challenge the health promotion practitioners and/or researchers to perform healthy interventions, including PA, in the workplace setting in the country.

The Social Cognitive Theory (14), and the WHO Healthy Workplace Framework and Model (4) provide the foundation for this study, addressing both underlying determinants of health behavior as well as promoting change approaches, and proposing a framework and model for an effective workplace physical activity program (14) The WHO Framework and Model outlines the avenues for a healthy workplace, including 1) the physical work environment; 2) the psychosocial work environment; 3) personal health resources in the workplace; and 4) enterprise community involvement. Those avenues will be applied as the guidelines to develop a model for PA program in the present study.

The objectives of the current study are:

- To determine the physical activity level of the staff in the workplace in Vietnam.
- To assess barriers and enablers, and preferred strategy for promoting PA in the workplace in Vietnam.
- To develop a conceptual framework and model for workplace-based physical activity program in Vietnam.

MATERIAL AND METHODS

Study design

This cross-sectional study will recruit the current staff of the National Institute of Hygiene and Epidemiology (NIHE), Hanoi, Vietnam. A mixed method of quantitative and qualitative approaches will be applied in this study. Data will be obtained using a structured questionnaire. In-depth interviews will be performed with certain participants.

Study setting

The present study will be conducted in the NIHE, a national research institute on preventive medicine in Hanoi City, the capital of Vietnam. The institute has 18 departments/centers, and 322 employees. It can be classified those departments/centers in 3 groups, including function, public health/epidemiology, and laboratory.

Sample size calculation

The purposive sample size method will be applied. All the current staff of NIHE will be selected in the study.

Participant recruitment

For quantitative study

A list of the current staff of NIHE will be made according department/centers. A detailed plan to approach the participants will be done by the principle investigator to make sure all the current staff will be interviewed by the structured questionnaire.

For qualitative study

Interviewees will be randomly selected from the list of the potential participants who agreed to be interviewed for approximately 20 minutes. Interviewees will be classified as three groups, including 1) representatives for the Director Board, Youth Union, Trade Union; 2) Heads of Functional, Laboratory, and Public Health/Epidemiology Departments, and 3) employees of the Functional, Laboratory, and Public Health/Epidemiology Departments within NIHE. Table 1 summaries the subjects, and topics for interviewing.

Table 1: Participants, quantity, and key themes for the interviews

Interviewer	Quantity	Key Themes
<i>Directors/Organization leaders</i>		
Representative of the Director Board of NIHE	1	- Current policy and support for physical activity promotion at NIHE - Strategies to improve physical activity for staff at NIHE - Financial support for physical activity promotion at NIHE - Direction and Orientation for improving physical activity for staff at NIHE
Representative of the Youth Union of NIHE	1	
Representative of the Trade Union of NIHE	1	
<i>Head of Departments/Centers</i>		
Representative of the head of the functional department	1	- Current physical activities in workplace - Barriers for workplace physical activity - Enablers for workplace physical activity - Recommendations for future workplace physical activity program. - Strategies to promote physical activity in workplace
Representative of the head of the laboratory department	1	
Representative of the head of the public health/epidemiology department/centers	1	
<i>Employees</i>		
Representative of the employee from the functional department	1	- Current physical activities in workplace - Barriers for workplace physical activity - Enablers for workplace physical activity - Recommendations for future workplace physical activity program, including: <ul style="list-style-type: none"> ○ How to promote physical activity in the worksite? ○ What need to be improved, such as environment, and facilities? ○ Preferred intervention strategies ○ What is the preferred method to deliver the program? ○ What activities are suitable? ○ How to maintain those activities? ○ How to engage staff in the program?
Representative of the employee of the laboratory department	1	
Representative of the employee of the public health/epidemiology department	1	

Data collection

For quantitative data

Informed consent will be obtained with the participants before performing the face-to-face interview using a structured questionnaire. This questionnaire comprises several sections, including personal and demographic information, working duration, job nature, habitual physical activity and lifestyle, PA in workplace, and barriers and enablers for physical activity in the workplace, followed by questions regarding to workplace-based PA program proposal.

Participant characteristics

The questionnaires will collect information on participant demographic characteristics (sex, education, professional, average number of working hours daily, departments/centers, and age) occupation characteristics (eg, work types, professional or functional departments/center, time service).

PA assessment

The International Physical Activity Questionnaire-Short Form (IPAQ), validated for Vietnamese adults (15, 16), will be used to measure PA levels, including vigorous, moderate intensity, walking, and sitting time. Additionally, the Occupational Sitting and Physical Activity Questionnaire (17) will also be applied to measure physical activities in workplace during a typical working weeks.

Barriers and enablers assessment

The participants will be asked about physical activity barriers and enablers. The barriers and enablers will be categorized into four groups, according the WHO Healthy Workplace Framework and Model (4). Those include 1) the physical work environment; 2) the psychosocial work environment; 3) personal health resources in the workplace; and 4) enterprise community involvement. Previous research (5, 11, 18-20), and other scientific literature (7, 21), helped the formulation of the questions.

Workplace-based physical activity program proposal

Beside the questions mentioned above, the participants will be asked about the intervention strategies that they prefer to, convenient methods of communication for health program at worksite setting. The WHO Healthy Workplace Framework and Model (4) underpins the question formulation. Similar to the barriers and enablers assessment, results from the previous studies will be utilized to form the questions (22-25).

For qualitative data

Nine interviewees will be conducted by a trained researcher. Semi-structured topic guides focused on current physical activity, barriers and enablers to uptake and continued PA participation, and program design and delivery for a workplace-based program. Prompts will be utilized in the event that the existing guidance are insufficient information. Details of the interviewees and topics are shown in the Table 1.

Data management

The transcribed questionnaires will be checked by the researcher daily to ensure the logical and sufficient information. Collected data will be entered into Epi-data on a daily basis. The hard copy of the collected data questionnaires will be kept in a cabinet with lock at NIHE. The electronic dataset will be securely stored in a password-protected computer at the NIHE.

Statistical analysis

Data on PA collected by the questionnaires will be analyzed according to IPAQ guidelines (26). Sitting and PA at work in a typical working week will be analyze according the guidelines (17), and be presented in sitting (minutes at work per week), standing (minutes at work per week), walking (minutes at work per week), and heavy labour (minutes at work per week).

The research team will analyze the data on the barriers and enablers, and workplace-based PA program proposal using the descriptive analysis. Results will be presented in number, and percentage. In addition, backward stepwise multiple regression analysis will also be performed to assess the factors affecting PA behavior.

Interview data will be documented and collated; and be thematically analyzed.

Ethical consideration

The study protocol has been approved by the Human Research Scientific Committee of the NIHE, Hanoi, Vietnam (Approval Number of 1678/QĐ-VSDTTU dated 22 November 2019).

RESULTS AND DISCUSSION

Results of the study are due in late of 2020.

This is the first study on physical activity in workplace in Vietnam. The study will provide an understanding of the barriers and enablers, and related factors to the effective intervention strategies for promoting worksite PA in Vietnam. In addition, findings from this formative evaluation will also contribute to more understanding of the culture norms regarding to health and wellness in the workplace. Future health promotion program targeting staff or employees in the workplace need to consider those factors. By doing this, an optimal program will be designed and can be reach to the program's audiences (22). Results of this study are applicable, especially in the context of lacking that evidence-based information in Vietnam. Researchers can use that published information for the development of a comprehensive evidence-based health programs in the workplace that take into account different factors, including the individual, environmental, and policy influences in Vietnam and other countries in the Southeast Asian regions.

CONCLUSION

This is the first formative study to develop workplace-based PA promotion program in Vietnam. Results of the study will contribute to the gap knowledge in this issue in the country.

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CONFLICT OF INTEREST

The authors have no conflicts of interests to declare

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