

Conference Paper

Improving Healthy Behaviour in the Workplace

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Abstract

Work is required to meet the needs of life and create prosperity, but it can impact the worker's health and safety. The risk factors of work are derived from the work process, the materials and tools involved, and the workplace; however, workers themselves can also be a source of harm if their health condition is not fit to work, and/or if they perform unsafe acts while working. One important factor that determines workers' health is their lifestyle, both in daily life and at the workplace. This article aims to share information about the Workplace Health Promotion program stage cycle development model. This model has evolved following the development of our knowledge derived from a literature review of both books and journals, an analysis of current issues, and our research involving students, as well as collaboration among campuses, faculty, companies, and other stakeholders in community social responsibility programs. This model consists of eight stages from which the name of RAPKPIEK is derived: recognition of health hazard and risk; analysis of needs; program planning; communication; preparation; implementation; evaluation; and continuity. The original program has been enhanced with three added initiatives: ethics and value, leadership engagement and worker participation, and the assembly and mobilization of human resources and infrastructure. Our research and our field experiences found that the RAPKPIEK model successfully improved several health indicators and established a healthy lifestyle in many workplaces. This model can be used as a guide for the development of interventions and form the basis of evaluation in workplace health promotion programs. However, it is suggested that the RAPKPIEK-plus concept of advancement needs to be further investigated for its effectiveness in order to promote better and more sustainable health behaviour in the workplace.

Keywords: healthy lifestyle, workers' health, workplace health promotion

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1. Introduction

Healthy workers are an asset to a company and to the workers themselves, because healthy workers are more productive and confident than their unhealthy peers. One important factor that determines workers' health is their lifestyle.

To achieve the occupational health goal of *maintenance and promotion of workers' health and working capacity* [1], one of the most important strategies is the promotion of health in the workplace based on behavioural change. Health promotion has been defined as "the science and art of helping people change their lifestyle to move toward a state of optimal health".

This paper aims to share information on The Workplace Health Promotion (WHP) Program Development Stage Cycle Model, hereafter referred to as RAPKPIEK-Plus.

2. Methods

2.1. RAPKPIEK-Plus – The WHP development stage cycle model

The occupational health team in our department, led by Dr Suharnyoto Martomulyono since the 2000s, has developed the RAKPIEK Model [2]. This model evolved following the development of our knowledge derived from a literature review of both books and journals, an analysis of current issues, and our research involving students. Also contributing to our knowledge was collaborative research with other campuses, faculty, companies, and additional stakeholders. Community service activities at several workplaces in Indonesia, both within and outside of Java, further advanced an understanding of the implementation and development of workplace health promotion programs.

This cycle was developed on the basis that the WHP is a series of activities related to education and organizing that involve work organizations, workers' families, and surrounding communities. The cycle was specially designed (method) to improve and support a lifestyle conducive to health as well as the work behaviour of the workers and their families (object), to optimize workers' health status and their work capacity (goals). A Workplace Health Promotion is defined as the science and art that helps workers and management change their lifestyle, work behaviour and environment, and to improve and maintain work capacity and attain optimal health both in and out of the workplace.

This understanding of the WHP has been combined with several theories and models of behaviour formation, as well as the science of management, which takes into

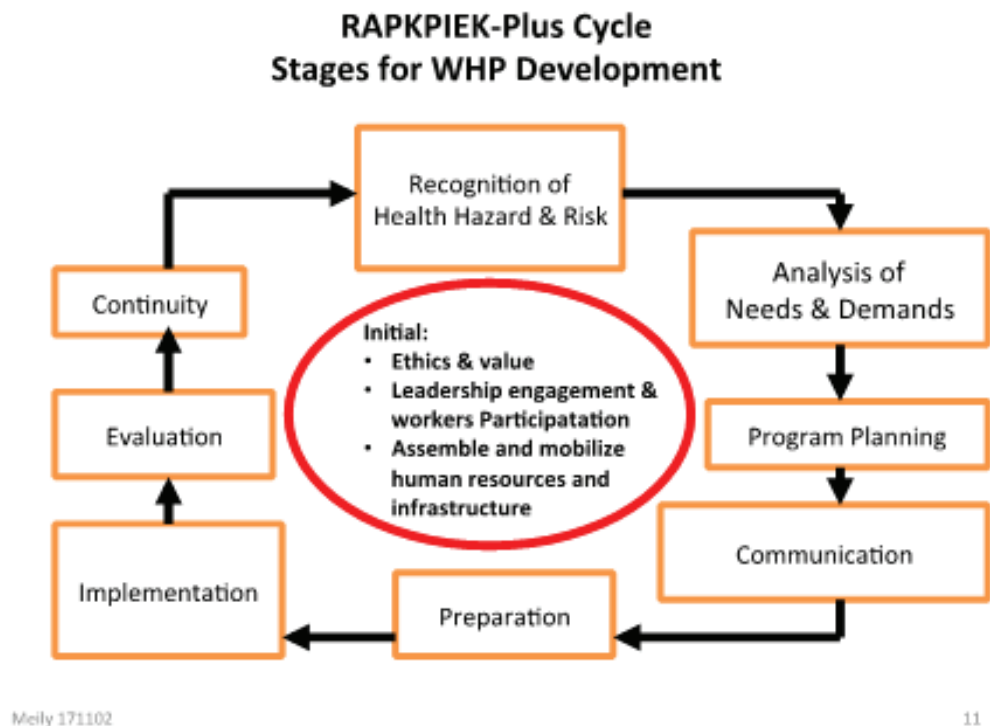


Figure 1: Workplace Health Promotion Program Stage Cycle Development Model (RAPKPIEK-Plus MODEL).

account local social, economic and cultural factors, to serve as the basis of behaviour formation interventions in the WHP program. The result is a program consisting of eight steps from which the name of RAPKPIEK is derived: (1) recognition of health hazards and risks; (2) analysis of needs; (3) program planning; (4) communication; (5) preparation; (6) implementation; (7) evaluation and (8) continuity [2]. By the end of 2016, this eight-step model was modified to RAPKPIEK-Plus, which is enriched by more structured and integrated management methods to meet the standards of the occupational safety and health management system. The additional steps consist of 3 initiatives: (1) ethics and values; (2) leadership engagement and worker participation; and (3) the assembly and mobilization of human resources and infrastructure.

RPKPIEK-Plus is expected to facilitate the implementation and improve the effectiveness of the intervention program.

3. Results and Discussion

3.1. Ethics and value development

WHP should be implemented ethically in every step, guided by the principles of beneficence and non-maleficence, giving respect to authority and justice. The values adopted are to uphold the human being in work and to maintain humanity in employment. Ethics and values are not necessarily recorded in writing, but they are often higher in meaning than written rules. Other considerations, such as maintaining the culture of the local community and appreciating the culture that workers bring to their workplace, are involved as well.

3.2. Leadership engagement and worker participation

The WHP program should emphasize that there is more to the function of leadership than management alone, and it calls for the participation of workers. Leadership is about inspiring people to do things they never thought they could; leaders are people who do something they believe to be true and good. Good leaders dare to perform, break the status quo, dare to show goodness in action and become role models, all features of the management's support and mission in the WHP. Leaders collaborate with employees to develop a flexible and socially supportive culture and positive health behaviours but remain responsive to the needs of workers. These needs include training for knowledge and lifestyle skills, team-building, conflict resolution, and establishing a balance between work and domestic affairs.

3.3. Assemble and mobilize

Assembly is an effort to collect the available resources, including human resources, infrastructure and facilities, that enable and support the implementation of healthy behaviour. Mobilization is the activity of mobilizing all supporting components according to the basic principles of the public health sciences—that is, from, by and for the community.

The first step in mobilizing and gaining support from all stakeholders is identifying key leaders and influential people—any individuals or groups potentially involved in driving change. The stakeholders' understanding of the ethics and values underlying the program is crucial; sincere and robust commitment can only be ensured when it is in line with the values and beliefs of all stakeholders. To guarantee the success of recruitment and to gain a commitment to participate from these people, we must

prepare various sorts of information and diverse approaches that will motivate them to mobilize. Therefore, it is important to develop the WHP team, which could be part of the Occupational Health and Safety (OSH) committee.

The WHP team/committee is assigned to lead, motivate, facilitate, mobilize resources, coordinate and manage the implementation of RAPKPIEK-Plus, and monitor and evaluate the program step by step [8].

3.4. Recognition

In accordance with the principle of risk management, which is used together with epidemiology in OSH science, hazard recognition and health risk assessment represent the first steps of RAPKPIEK in determining program priorities. At this stage, recognition aims to identify workers' health problems and determine program priorities. There are four aspects of the assessment necessary for success: (1) workers' health status as individuals and especially as a group of workers (similar exposure group); (2) health risks; (3) individual worker's health behaviour and readiness to make changes (4) readiness of leaders within the organization, holders of control and providers of change, to support facilities in the workplace.

The health risk assessment (HRA) includes medical records and the result of medical check-ups, i.e. an understanding of the health status and work capacity of all workers, as well as workplace hazard identification and risk assessment. The HRA also includes other supporting data, such as primary data obtained by observations, interviews and questionnaires or by other means. The output of HRA will be the health profiles of workers individually and as groups.

3.5. Analysis

The second step is analysis. The purpose is to prioritize the most needed and important program. Analysis is necessary to determine the relationship between workers' knowledge and behaviour, i.e. the relationship between what they know and perceive and the actions they take in addressing their health risk factors. This information allows interventions to be developed for corrective action

There are many analytical techniques, quantitative, qualitative or mixed method, that can be adopted to analyse the real needs, preferences, attitudes, and readiness of program participants. These techniques can also analyse organizational readiness.

The WHP team provides feedback to the workers about the HRA result, and about what risk factors can be controlled and even eliminated through changing adverse behaviour to behaviour that supports and improves health. The analysis is conducted by first facilitating the exchange of experiences and ideas among workers. Then negotiations are made concerning WHP needs, i.e. managers and workers discuss and work together to consider and establish the priority of WHP activities, based on the principles of benefit and feasibility. Matters to be considered include the extent of the contribution of health problems to health costs, worker productivity, the level of health risks and possible disabilities, the consideration of the funds available to the WHP program, the capability and access to program support facilities, as well as the workers' perceptions of the program to be implemented. Based on this information, a realistic WHP program, one that seems possible to implement, is prepared.

3.6. Planning

The program planning process is an important part of the health promotion process and contributes greatly to the success of shaping health behaviour. Planning is the process of defining WHP goals or targets, developing a strategy in the process of achieving that goal, and designing an organizational work plan. Planning is the most important process of all management functions because without the planning, other functions, i.e. organizing, directing, and controlling, will not work.

WHP program planning is developed in collaboration with worker representatives on the basis of the following factors:

- i. The target of change to be achieved both for individuals and groups, whether simply raising the awareness or knowledge of workers regarding the risk of disease, or the attitude and behavioural change necessary to cope with those risks, or to reduce the risk and even reduce morbidity and mortality as the outcome. The targets formulated should meet the SMART (specific, measurable, appropriate, reasonable, time-bound) principles. There should be short, medium and long-term targets for sustainability if they have become habitual or entrenched.
- ii. The process towards the target of change is developed through a variety of ways that can be combined, according to the theory and model of behavioural

change that is considered most appropriate, including the fulfilment of predisposing factors, enabling factors, and supporting factors. These ways include organizational policy vision, mission and commitment, supportive environmental activities, psychological contacts, observation or role models, education, training and participatory approaches, provision of place and time of program implementation, assistance, funding, facilities and infrastructure, publications, and/or incentive systems.

- iii. How the achievement of targets should be assessed is set out in the evaluation design. The type of evaluation design is defined and based on the program objectives, the basic comparison used as the reference, and the available resources and support facilities.

The outline of planning is the draft of the proposal. The first part of this is the introduction, which explains why this program needs to be done by providing a sense of the background in the form of the results of recognition and analysis, objectives, benefits, and targets. Then it describes the planning of several alternative promotional activities, including budget plans as well as human resources and necessary facilities, implementation of controls, and evaluation methods in the form of WHP programs. There could be more than one draft regarding how many proposals will be submitted; all the drafts will be the alternatives used as a communication issues in the next stage.

3.7. Communication

The purpose of communication is to reach a consensus among stakeholders regarding the program priorities and gain the support of top management, involving participation of all levels in the organization. The formulation of several planning alternatives should be communicated. Information provided in the draft of the proposal includes the health risk assessment results, and which risk factors can be controlled or eliminated through behavioural change; the objectives, benefits, targets, and action plans, including the budget plans; human resources and facilities needed; and the implementation of controls and evaluation methods in the form of the WHP program.

The WHP team also carries out advocacy to the management and socialization to the workers. Advocacy is meant to influence the decision-making within an organization, whereas socialization is meant to inform and get feedback from the target population who will receive and implement the message. Advocacy and socialization are carried out through various strategies including lobbying, social marketing, communications,

information dissemination and education. Messages are delivered in a way that is empathetic, interesting, competent, honest, open to criticism and input, and accompanied by a high level of commitment.

3.8. Preparation

Once the priorities are established, the WHP program is agreed upon by a consensus of management and workers' representatives. It is then possible to start preparing the strategy for building a WHP program, with organizational policy and written commitment as the foundation. Preparation includes determining the immediate human resources, facilities, infrastructure, and other elements necessary for implementing the program in accordance with agreed targets. Its outline is a comprehensive and integrated plan of action explaining 5W1H (why, what, when, where, who and how) to achieve the target as planned.

Comprehensive programs require formal structures and integrated elements that must be prepared and developed according to the conditions and needs of the workplace. These elements include written statements, organization, coordination, feedback mechanisms, promotion infrastructures, documentation systems, education and training facilities and human resources.

3.9. Implementation

More and more evidence suggest that no education method or behavioural intervention conducted alone can solve the problem of altering health behaviour. Many studies recommend using an approach combining various methods of education, training and intervention to produce change and encourage maintenance of healthy behaviours. The means of implementing the WHP programs are varied, and could involve education or information distribution through social media such as WhatsApp, Facebook, Twitter, YouTube and electronic mail, posters, text messages, group sessions, personal consultation, and mentoring. Regardless of the method employed, the message emphasises that practice of healthy behaviour is a must.

In determining the implementation method, it is necessary to adjust to WHP positions within the organization, allocate existing resources, consider educational and training goals, and take such practical issues such as timing of implementation, coverage of publications, incentives, culture, and ethics into account. The most commonly

used methods of implementation are the pilot project method, gradual method, and the total program method. There are advantages and disadvantages of each method.

3.10. Evaluation

During the WHP program, team leaders regularly monitor and evaluate its effectiveness by means of a cost-benefits analysis, worker participation rates, and achievement of targets. Any irrelevant behavioural or environmental change or deviation should be taken into account, either supporting or inhibiting, anticipated or confronted, followed by appropriate correction. At the end of the program, an important issue within WHP is the achievement of the goal of improving workers' health and work capacity in a cost-effective way. The evaluation aims to assess whether the WHP program funding is efficient and effective (business aspect), whether WHP goals are achieved (accountability aspect), as well as to provide information for management and workers that may become part of further policy decisions, such as policies on life- and work-changing behaviour and sustainable health maintenance activities (aspects of science and arts).

The evaluation methods vary from simple and inexpensive to complex and expensive. Which to use depends on several factors, including the purpose of the program, the basis used as a comparison, and the available resources. Both short-term and long-term impact can be evaluated.

3.11. Continuity

Continuous or sustainable programs are developed on the basis of appreciation, including rewards for workers who achieve the target. For those who have not reached the target, they repeat the step of recognizing the problem, then analyse their performance and cope with the problem seriously; this follows the pattern of the original cycle. Thus, the WHP program can continue, grow and achieve its goal.

Examples of Research and Implementation of Health Behaviour Interventions in the Workplace

Based on the concept of the RAPKPIEK stages in WHP program development, we have built a research tree that is continuously developing. Since 2010, with the cooperation of students, colleagues, and other parties, we have undertaken research concerning

TABLE 1: Improvement on healthy behaviour using RAPKPIEK Models in Researches and Community Services.

Research and Community Services	Design	Result
Evaluation of Workplace Health Promotion Program among Dyslipidaemia Workers in Company 'C' 2015 [1]	One group pre- and post-test study design	There was significant improvement of blood total cholesterol, LDL, waist circumference, and BMI after the program compared to the baseline. By continuously implementing this promotion program, it is projected that many workers will reduce their CVD risk.
Impact of Smoke-free Workplace Implementation on Workers' Smoking Behavior (2015) [2]	Quasi-experimental pre- and post-test design	Smoke-free Workplace reduced 42.06% cigarettes smoked, 73.5% smokers obeyed the rule of SFW, 6.3% become quitter. Since the smoking areas were too far, they were reluctant and rather felt guilty to leave their work just for smoking.
The Development of an Effective Workplace Health Promotion Program to Reduce Cardiovascular Disease Risk in Campus (2014) [3]	Experimental pre- and post-test controlled group design	There were significant CVD risk factor improvements, i.e., a reduction of the total cholesterol in both groups ($p = 0.000$); there was a decline of LDL in both groups, although it was significant only in Group I ($p = 0.017$). There were other improvement trends such as the triglyceride levels and systolic and diastolic blood pressure; the HDL profile did not improve. There was a significant cholesterol reduction in both groups, and significant improvement in the healthy lifestyle knowledge, attitude and skills also in both groups. The poster and booklet with self-monitoring tools endorsed by written commitments from the rector and deans, through 8 steps of WHP program development (RAPKPIEK) could encourage a healthy lifestyle and consequently reduce the CVD risk at the first post-intervention assessment, particularly with the addition of personal assistance to the program.
Promotion of Knowledge, Attitude, and Practice on Healthy Lifestyle Through Exercise Group (2013) [4]	Quasi-experimental pre- and post-test design	Increase knowledge score (58%) and practice of healthy lifestyle, i.e., cooking the prudent food, minimum 4x/w exercise, 7-8 hours sleeping and enough leisure time.

WHP developments in community service activities using this model, conducted on campus, in corporate settings, and in communities.

Our research and field experiences found that the RAPKPIEK model demonstrated success in improving several health indicators, and successfully established a healthy lifestyle behaviour in many workplaces. Some examples are provided below (Table 1). We conclude that one of the important reasons for its success is that the model was developed by adjusting to conditions in Indonesia. A useful comparison is that of the Workplace Health Model introduced by the CDC (United States). This model includes

four steps: assessment, planning and management, implementation, and evaluation [2]. This model is much simpler than RAPKPIEK and has shown effectiveness in a fairly mature worker community characterized by a sense of unity. However, it should be used with caution among vulnerable workers with irresponsible provocation, so it is not entirely feasible in all workplaces.

RAPKPIEK-Plus illustrates that achieving WHP program goals not only depends on the competency of WHP team leader(s) in terms of risk assessment, needs analysis, planning and conducting behaviour risk management, as well as their ability to mobilize resources, but it also depends on noble ethics and values of the company, the commitment of leadership, and the involvement of all workers.

4. Conclusion

The concept of implementing the stages of RAPKPIEK can be used as a guide for the development of interventions and can form the basis of evaluation in workplace health promotion (WHP) programs. It is suggested that the effectiveness of the RAPKPIEK-plus concept of advancement be further investigated in order to establish better and more sustainable health behaviours in the workplace.

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