Total Workplace Safety and Health (TWSH) to Preserved and Maintain Workers' Safety, Health, and Wellbeing: A Literature Review

Herlina J. EL– Matury[1], Fatma Lestari[1]

[1]Occupational Health & Safety Department, Faculty of Public Health, Universitas Indonesia

Correspondence author: herlina.jelmatury@ui.ac.id, herlinajelmatury.hjem@gmail.com

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Traditional occupational safety and health protection programs have primarily concentrated on ensuring that work is safe and that workers are protected from the harms that arise from work itself. This article discuss about history and approach of Total Workplace Safety and Health. Aging workforce, unhealthy lifestyle & lack of safety mindset become challenges of worker's safety and health. Healthy workplace is inspired by the WHO definition of health as: "A state of complete physical, mental and social well–being, and not merely the absence of disease or infirmity". Safe and Healthy Workplace is one where workers and managers collaborate to use a continual improvement process to protect and promote the health, safety and wellbeing of all workers and the sustainability of the workplace. In conclusion, the paradigm shift must change from labour approach occupational health to public health approach worker's health.

Keywords: *Healthy workplace, Safety and Health*

INTRODUCTION

Changes in the work environment, increasing aging workforce, developing individual chronic illnesses of workers, economy, and social present significant challenges and become a new spectrum of safety and health risk[1,2,3.] Every year, 160 million new case of work–related illness, occupational risks make a big contribution in chronic diseases such as [6]:

1. 26% CVD and chronic obstructive pulmonary diseases
2. 15% asthma
3. 10% cancer
4. 8% injuries
5. 8% depression

Traditionally, Occupational Safety and Health Programs (OSH), Worksite Health Promotion (WHP), and employee benefits and other supports Human Resources (HR) have operated separately, even though they all promote worker health and well–being. HR programs somewhat overlap between OSH and WHP[7]. In recent years, worksite health promotion increasingly has been referred to as a means to better manage costs for employers through cost savings caused by medical care, lower absenteeism, and improved on–the–job performance[10]. A wealth of data demonstrates that in the long term, companies that promote and protect workers' health are among the most successful and competitive, and also enjoy better rates of employee retention. Some factors employers need to consider are[11]:

a. the costs of prevention versus the costs resulting from accidents;
b. financial consequences of legal violations of health, safety and occupational rules and laws;
c. workers' health as an important business asset for the company.

HEALTHY WORKPLACE

Healthy workplace is inspired by the WHO definition of health as: "A state of complete physical, mental and social well–being, and not merely the absence of disease or infirmity"[8]. WHOs' new paradigm that a Safe and Healthy

Workplace is one where workers and managers collaborate to use a continual improvement process to protect and promote the health, safety and wellbeing of all workers and the sustainability of the workplace8. Healthy workplace is a new way of thinking that a comprehensive approach that embraced:

1. Traditional & emerging occupational health; minimizing workers' exposure to job related physical & psychosocial risks
2. Health promotion; promoting healthy behaviors among workers , both job and lifestyle related
3. Enterprise involvement in community to address broader social & environmental determinants of workers health[6].

Today, paradigm shift have changed from labour approach occupational health to public health approach worker's health, there are[6]:

· From action at workplace to action to include workers' families and communities
· From work-related health issues only to include all health determinants
· From work under labour contract to include all worker's (self-employed, informal workers)
· From employers' responsibility to all stake holders' responsible (insurance, health & environment authorities)
· From negotiation between workers and employers to health protection is non- negotiable.

A healthy workplace is one in which workers and managers collaborate to use a continual improvement process to protect and promote the health, safety and well-being of all workers and the sustainability of the workplace by considering the following, based on identified needs:

· health and safety concerns in the physical work environment;
· health, safety and well-being concerns in the psychosocial work environment, including organization of work and workplace culture;
· personal health resources in the workplace; and
· ways of participating in the community to improve the health of workers, their families and other members of the community[9,10.]

In Healthy workplace model, workers mobilize and involve on a stepwise processes continually, as shown in figure 1 :

Figure 1.
WHO Healthy Workplace Model: Avenue of Influence, Process and Core Principles
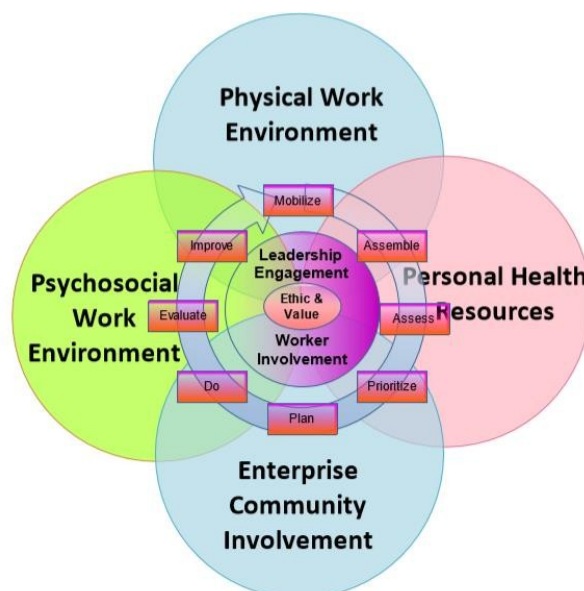
Source: Healthy Workplace WHO[9].

This figure shows the four interests in safety and health workplace to action9, these are:

1. The physical work environment; structure, air, machinery, furniture, products, chemicals, materials,and production process in the workplace are the physical work environment factor which can affect workers in physical, mental, and well-being. These hazards are potentially to make workers disable or kill and it must be identified, assessment, and controller by way of hierarchy of process controlled such as:
   a. Elimination or substitution
   b. Engineering controls
   c. Administrative controls
   d. Personal protective equipment

2. The psychosocial work environment; culture in organization such as: behavior, values, beliefs and day to day activities might cause emotional and mental stresses which are called work stress. Some examples of work stress are:
   a. Poor work organization (complicated situation with communication, job design, demand, reward, etc.).
   b. Culture in organization (discrimination in gender, intolerance for ethnic and religion, bullying and harassment, etc.).
   c. Style of management in command and control
   d. Lack of support for balance in work-life
   e. Fear of losing job

   Identification and assessment this hazard are using survey or interview and then controlling by hierarchy of control, they are:
   a. Eliminate or modify at the source (work or shift rotation, forbid harassment and discrimination, knowledge updated the supervisor in communication and leaderships skill).
   b. Reduce impact on workers; flexibility in the workplace and working time permitted, c. Awareness risen and training provided to protect workers

3. Personal health resources in the workplace; Personal health resources are the health services, information, resources, opportunities, flexibility and otherwise helpful environment an enterprise provides to workers to support or motivate their efforts to improve or maintain healthy personal lifestyles, as well as to monitor and support their physical and mental health.

4. Enterprise community involvement: Enterprise community involvement comprises the activities, expertise, and other resources an enterprise engages in or provides to the social and physical community or communities in which it operates; and which affect the physical and mental health, safety and well-being of workers and their families.

Implementation and Study

Integrated approaches to workplace health have been shown to:
a. Improve health behaviors including smoking cessation
b. Improve employee participation in occupational safety and health (OSH) and health promotion programs
c. Reduce occupational injury rates
d. Reduce health care costs, administrative costs, and costs resulting from lost productivity or increases in work absenteeism[5].

TOTAL WORKPLACE SAFETY AND HEALTH (TWSH)

As small country and lacks of natural resources, Singapore makes man power as the most important resources to keep and improve them to provide their knowledge-based economy. Singapore has maintained and made significant progress in handle the traditional challenges of workplace safety and health. However, increasing age and developing individual chronic illnesses of workers become a new spectrum of safety and health risk. Individual health risk can be prevent and diagnose earlier with a new approach that integrates health, safety and wellbeing. So,

workers can work for a life time in safe, health, and productive. The integrated approach calls "Total Workplace Safety and Health"[1,2]. Total Workplace Safety and Health (TWSH) shift the mindset from 'work safely from 9 to 5' to 'Work safely and healthily for a fulfilling and productive life'. TWSH is a proactive, comprehensive and integrated approach to managing workplace safety and health holistically. TWSH makes same benefits for workers and companies such as a safe workplace, happier and healthier employees, more productive workforce and lower healthcare cost[1,2]. Total WSH is a holistic approach to managing safety and health in the workplace, proactive, comprehensive and integrated assessment of all risks in the workplace including workplace safety, workplace health and employee wellbeing. This approach needs continued and active participation by all employees and management in partnership to comprehensively reduce risks, recognizes that both health and safety can affect health of the employee and vice versa[1,2,12].

A study on Total WSH conducted in 30 companies which was involving 9000 employees in Construction, marine, manufacturing and services sectors in Singapore in 2012. The study compared between employees in companies with a holistic, comprehensive and integrated approach to WSH and those without and found that[1]:

a. 4.4x proudly working to company
b. 7.4x satisfied with current job
c. 1.7x having work–life balance, and
d. > 50% of companies observed the worth of Total WSH approach.

Intervention on office ergonomics and smoking encouraged and reported:

a. 12.6% stop smoking
b. 42.6% reduced cigarettes smoked
c. 50% reduction in pain severity
d. 69% improvement in pain

How to Implement TWSH?

TWSH attempts to integrate health promotion and disease prevention with accident prevention in order to ensure a safer, healthier and more productive workforce[1].

Figure 2. Total WSH Process

Source: WSH Council Singapore[1]
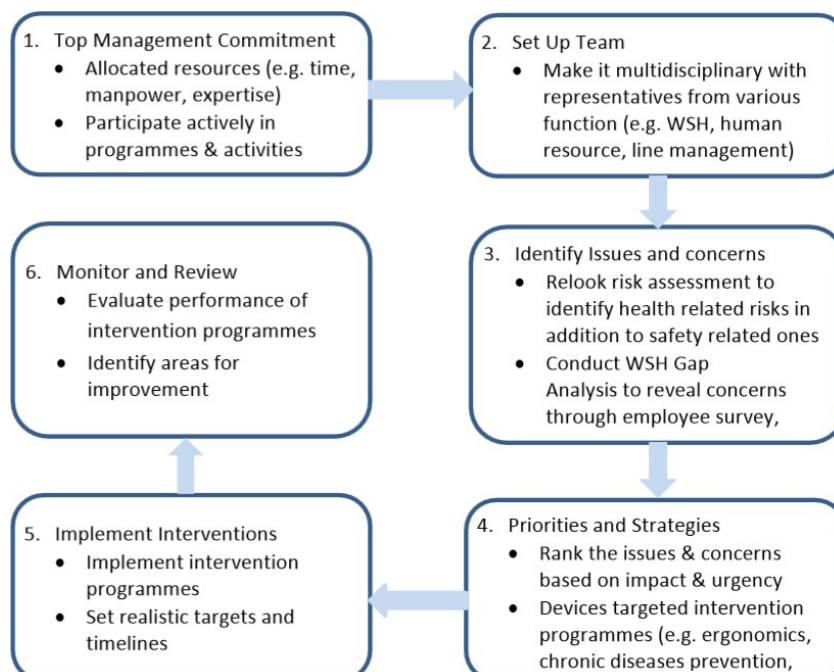
WSH Council Singapore has 6 step of process to execute TWSH at workplace, they are:

1. The commitment of Top Management. Top management should engage, involve and commit to implement TWSH in the workplace such as allocate resources and actively participate in programs and activities

2. Set Up the Responsible Team. The team members should be representative from multidisciplinary and various departments or function in company's organization as well as workers, workers union, human resources, safety and health experts. The team will facilitate the implementation and integrated system holistically suchas review and analyze data that has been collected, identify and priorities employees' needs, prepare SMART (Specific, Measureable, Attainable and Time-bound) WSH policies, programs and practices, report the progress to top management and review the programs.

3. Identify and Concern any Issues done by relook risk assessments to identify safety and health risk, and conduct gap analysis.

   3.1   Risk Assessment

   Any issues in workplace can be evaluates with hazard identification, risk evaluation and risk control1.

   a. Hazard Identification is done to identify hazard, potential accidents or incidents and possible impact of individual health risk factors on work. Hazard in the physical work environment and processes are mechanical, chemical, electrical, biological and ergonomics. Work organization hazard could be affected by the physical work environment and processes and organization work such as work overload, prolonged working hours, discrimination or harassment, etc. Hazards which are came from individual health factors are smoking, older workers, obesity, pregnancy, health conditions, etc.

### Figure 3. Three Aspect of Hazard Identification

Source: WSH Council[1]
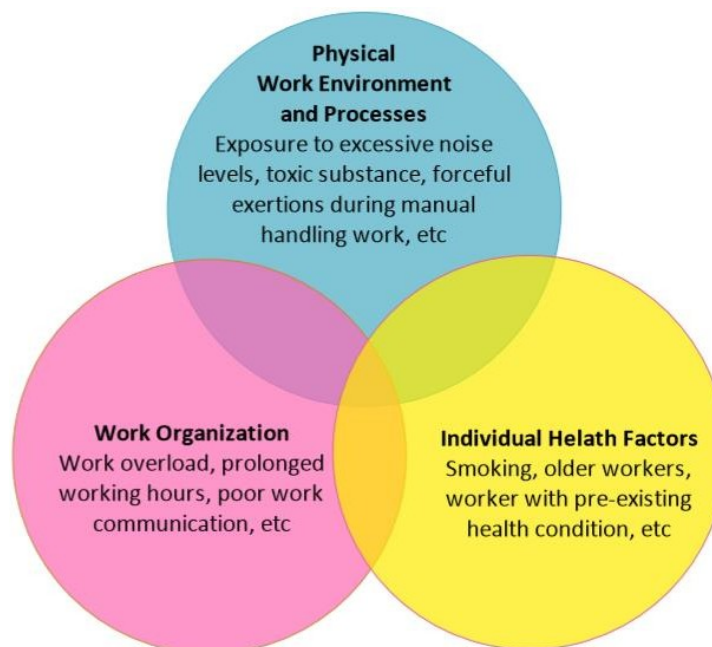
   b. Risk Evaluation estimate the risk levels of the workplace hazards identified and priorities the hazards to be controlled. Each hazard has the risk level that can be used to estimate and predict the severity of the hazard and the likelihood of the accident or the ill health. Risk evaluation result references to make priority action to control hazards and minimize the risk to workers.

   c. Risk Control formulates the control measures according to the Hierarchy of controls, analyze and evaluate residual risks. Reduce risk in the best way could be by tackling the source of the risk, it can be achieved by eliminate or substitute the risks.

3.2. Conduct Total WSH Gap Analysis that is the analysis to reveal concerns through employee survey, walk-through and data analysis. The analysis looks for the interconnection among the workplace and the workers such as processes, conditions and situations that is causes and threats to the organization. There are 7 steps to comprise a Total WSH Gap Analysis, they are:

    i. Data collection; collecting existing data and information from various sources about incidents and workplace.

    ii. Baseline analysis; the collected data sorts into various groups to look for any patterns or trends which correlate with employee's personal health data.

    iii. Employee survey; if the data is missing or difficult to correlate, surveys and focus group discussion can be consider to bridge the gaps.

    iv. Walk-through survey; to verify the findings that derived from the analyzed data.

    v. Evaluate findings and suggest improvements; summarize findings and make a recommendation for improvement.

    vi. Communicate findings; discuss findings and transfer to all level of staff including contractors and visitors.

    vii. Act on recommendations; priority solutions and implement.

4. Priorities and strategies. Priorities the issue based on impact and urgency, and make strategies intervention program (e.g. ergonomics, chronic diseases prevention, and chemical management). Implement the intervention program. Set realistic targets and timelines.

    4.1. Managing Older Worker. The number of workers who choose to keep working after retirement has increased, even their physical and mental function has changed. Companies can improve employability of mature workers by comprehensive approach and appropriate to the risks in the workplace, health condition and workability.

    4.2. Ergonomic and The Prevention of Musculoskeletal Disorders. Some work activities such as repetitive work, heavy lifting and manual handling could contribute to Musculoskeletal Disorders (MSDs). Make an ergonomic workplace as well as work tasks, instrument, and environment can prevent MSDs, optimize and enhance their workability.

    4.3. Managing Work Related Stress The way that work is conducted affects the stress experienced by employees where the employer is not aware of it. However, the psycho-social risks could be reduced with good communication that can be managed.

    4.4. Absence Management

    4.5. Preventing Chronic Disease. Chronic diseases such as high blood pressure, diabetes mellitus, hearth disease, and so on might affect the worker's ability and capacity. The organization can improve worker's health by prevent and control chronic disease. Organization can make a prevention program that should cover such as:

        a. Identify health risk factor with regular screening for health risk factor including chronic diseases

        b. Prevention and intervention . Measurement of workplace and environment, educate and awareness, programmes which are capable and applicable based on the risk.

    4.6. Return to Work programme to help injured workers with manager and health professional support.

5. Monitor, evaluate and review. Evaluate performance of intervention programs. Identify areas for improvement.

Figure 4. Total WSH Approach

Source: WSH Institute [4]
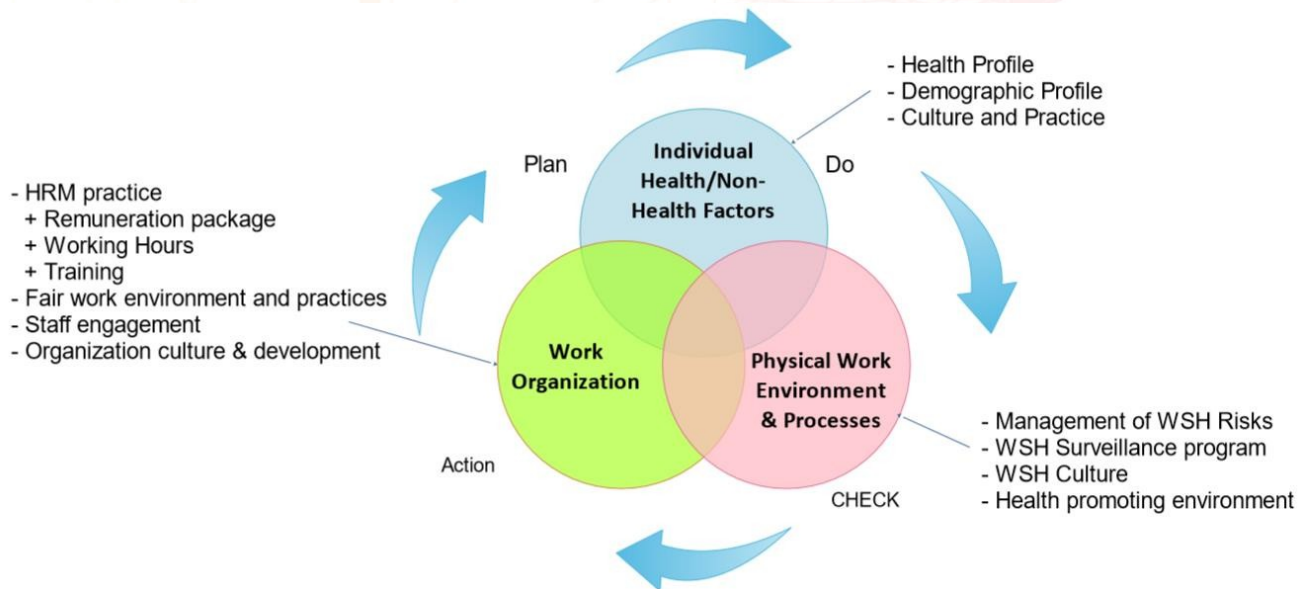
CONCLUSION

Over the last few decades, protecting the health of the workforce has generally focused more on occupational diseases and safety at work, there is an increasing need for a TWSH service to both protect and promote the health of the workforce [11]. A total workplace safety and health (TWSH) service is one where the elements of safety, health and well-being are considered, implemented and integrated at the workplace. Employees with chronic diseases will benefit from having better control of the diseases, resulting in fewer complications and a better quality of life. For employers, this translates into enhanced productivity and lower healthcare costs for the company[11,12].

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