Conference Paper

Health Status and Occupational Health Hazards Among Home-based Garment Workers in Semarang, Indonesia

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Abstract

Occupational health and safety are important issues as technology develops and work principles shift. Home-based workers in the garment industrial sector are similar to other home-based workers who work without health protection, work safety, or social insurance. The assessment and management of working environmental hazards are further challenges in worker management, especially for home-based workers. This study is aimed at assessing the health and safety status of home-based workers in the garment industrial sector in Semarang City and to suggest safety measures for workers. Assessments were conducted using the direct survey method. The survey results from 58 home-based workers in the garment industrial sector selected through purposive sampling show that they are exposed to physical factors such as heat stress and noise (58.62%), dust and chemicals (41.38%), and ergonomic hazards (100%). The health problems experienced included dizziness and headaches (51.72%), vision problems (34.48%), ringing ears (6.9%), cough and breathlessness (8.62%), tingling (63.78%), and muscle and bone pain (67.24%). The types of injuries that occurred were joint pain (75.9%), stiffness (53.4%), and muscle pain (15.5%). This study shows that home-based workers in the garment industrial sector exposed to dust and chemical hazards are 9.4 times more likely to suffer health problems than workers with no exposure to dust and chemical hazards.

Keywords: Garment, garment industrial sector, home-based workers

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1. Introduction

Home-based workers are workers who perform part of the production process at home. These workers have no ties to employers, so their working safety and health are

not guaranteed. The employment relationship is informal and exploitative. Health rules and norms are very poorly enforced [1].The increasing number of home-based workers who face insufficient health and safety conditions could cause health problems, was indicated by decrease productivity. In Indonesia, only 26 percent of informal sector workers receive healthcare coverage [2].

Factors that affect workers' health problems include the condition of the home environment used as a site for the production process. Diseases and health problems due to the poor working environments and lack of health requirement. The most common decrease lung function, caused by dust as a chemical factor. The physical factors from environment, such as heat stress; noise; and non-ergonomic equipment, also health problems in home-based garment workers [3].

Studies conducted in Indonesia state that many cases related injuries and accidents are reported by informal sector workers. Female home-based workers are more likely to be injured than their male counterparts. The most common problems identified include back and rheumatic pain due to sitting or standing positions while working. Dust exposure also causes respiratory problems associated with the working environment. Fatigue and headaches are also issues mentioned by several workers [3].

This study aimed to analyze the occupational health hazards and health status of home-based workers in the garment industrial sector in Semarang City and suggest safety measures for workers.

2. Methods

This was survey research with a cross-sectional approach. Purposive resulted in 58 home-based workers in the garment sector. The research variables included the occupational health hazards, health complaints, and health disorders of the respondents. Data were collected using a questionnaire and workplace observation using a checklist. The analysis of occupational health hazards and health complaints was tested using chi-square (x^2) test.

3. Results

3.1. Identification of hazards factor

The study respondents 58 workers in the garment industrial sector in Semarang City. Most work in inadequate conditions. Physical, chemical, and ergonomic hazard found

in their workplaces. Ergonomic hazard factors exist for all the respondents. The distribution of hazard factors for workers is shown in Table 1.

Table 1:

Table 1: Distribution of hazard factors for home-based workers in the garment industrial sector in Semarang City.

Hazard Factors	Frequency (hazard factor present)	Percentage (%)
Physical	34	58.62
Chemical	14	41.38
Ergonomic	58	100

3.2. Identification of health problems

Occupational health and safety rules for home-based workers in the garment industry are given little attention, leading to complaints about health problems among the workers. Health problems often experienced by workers include dizziness and headache (51.72%), tingling (63.78%), and muscle and bone pain (67.24%).

Table 2: Health disorders identified by home-based workers in the garment industrial sector in Semarang City.

Health Problems	Frequency	Percentage (%)
Dizziness and headaches	30	51.72
Blurry	20	34.48
Ringing ears	4	6.9
Coughing and shortness of breath	5	8.62
Tingling	37	63.78
Muscle and bone pain	39	67.24

3.3. Identification of types of injuries and working complaints

In addition to the health problems mentioned in Table 2, the workers also suffer injuries and work complaints. Join pain (75.9%) among the types of injuries experienced by workers. The respondents report work complaints of stiffness and muscle pain (Table 3).

Table 3: Distribution of working complaints of home-based workers in the garment industrial sector in Semarang City.

Work Complaints	Frequency	Percentage (%)
Stiffness	31	53.4
Muscle pain	9	15.5

Table 4 shows that home-based workers in the garment industrial sector exposed to chemical hazards (dust and chemical hazards) 9.4 risk for health problems than workers with no exposure to dust and chemical hazards.

Table 4: Relationship between occupational health hazards and working complaints of home-based workers in the garment industrial sector in Semarang City.

Variable	P-value	Prevalence Ratio (95% CI)
Physical	1.000	1.30 (0.762–1.023)
Chemical	0.002*	9.40 (1.598–9.856)
Ergonomic	0.760	1.05 (0.563–1.071)

4. Discussion

Home-based workers take work from a company and bring it home [1]. The characteristics of home-based work are that it does not require high skills and can be done at home without having to abandon daily duties such as cooking, washing, and parenting [3]. In rich and poor countries, home-based workers produce a variety of goods and services from low to high level of industry for both domestic and global markets from within or around their houses [4]. Some workers are self-employed or subcontractors, and most are women. Sub-contracted home-based workers are contracted by individual employers or companies, often through intermediaries. They are usually given raw materials and paid per unit [2]. Workers in home-based industries face risks of accidents and illnesses caused by work attitudes and environmental factors due to a lack of knowledge and safety standards among home-based workers [5].

Home-based workers in the garment industrial sector in Semarang City are similar to other home-based workers. They work regardless of work safety and health rules. In addition, work long periods normal limit every day. This can health hazards to the workers [6]. The bodies of workers forced to work continuously experience fatigue even before the work begins [7]. Previous research on home-based workers also mentions muscle complaints, such as pain in the lower back, shoulders, wrists, hands,

and knees. The factors causing muscle complaints work safety factors, physical workload, and the psychosocial working environment [8]. In addition to workers' health risks, fatigue has a negative effect on working safety, productivity, and product quality [9]. Inadequate working environment factors, unhealthy working conditions, and non-ergonomic work tools lead to low productivity.

Research on home-based workers in the garment industrial sector finds that there is a relationship between chemical hazard factors and workers' health problems. In addition, home-based workers exposed to dust and chemical hazards are 9.4 times more likely to suffer from health problems than workers expose to dust and chemical hazards. One cause of chemical exposure among workers is the use of Personal Protective Equipment (PPE) [5]. Most workers do not use PPE during working hours. It is also important to recognize that PPE do not eliminate hazards but serve as a barrier between workers and hazard sources [10]. Anticipating hazards and working methods focusing on safety and health has not been a major concern for workers and their employers [11]. Home-based workers in the garment industrial sector lack working health and safety training. Healthy workers tend to be more motivated, have higher job satisfaction, and contribute to better quality products and services [12].

Efforts to improve occupational health are realized in a healthy and productive workforce, which can improve the welfare of their families and communities [13]. In this case, workers have to contribute a lot to reduce occupational and working environmental hazards [14]. The principles of occupational health mark an attempt to align work capacity, workload, and working environmental factors [12]. Although workers might not feel sick and continue to work, proper, intelligent consideration should be given to reviewing the principles of occupational safety and health [15].

5. Conclusions

Home-based workers in the garment industrial sector and chemical hazards are 9.4 times more likely to experience health problems than workers to dust and chemical hazards.

Conflict of Interests

The authors declare that they have no significant competing financial, professional, or personal interests that might have influenced the performance or presentation of the work described in this article.

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