

Chapter 16

Improving Psychosocial Factors in Small-Scale Enterprises in Japan and the Asia-Pacific Region

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Abstract The Ministry of Health, Labour and Welfare of Japan has reported that smaller enterprises are less active in mental health promotion. Yet few studies exist on mental health activities in small-scale enterprises (with 10–49 employees) and in micro-scale enterprises (with fewer than 10 employees) in Japan. In a review of the literature on preventive occupational health and safety in these enterprises, the employer is the dominant player for any changes which need to be made to promote mental health. This study aimed to clarify the demands facing employers in micro-scale enterprises and small-scale enterprises regarding mental health activities and to establish measures for improving the existing situation in Japan. In 2012, a questionnaire survey was conducted on mental health with 1041 employers, including 367 micro-scale enterprises and 419 small-scale enterprises. The survey included questions about enterprise scales, types of industries, attitude of employers on mental health, annual budgets for mental health activities, future plans for mental health activities, and expectations for external occupational health specialists. The main expectation for external occupational health specialists was counseling for employees. Education for employers themselves was second highest (10.4 %) among the requests from employers in micro-scale enterprises. The median amount budgeted for mental health activities in micro-scale enterprises was 80 US dollars per year, with 37 % of micro-scale enterprises reporting nothing budgeted for it. Therefore, a brochure and video tools on mental health at an affordable price for employers in micro-scale enterprises were developed. Interviews about these tools were implemented in 11 micro-scale enterprises and 18 small-scale enterprises. An analysis of interviews with the employers revealed that most answered, “the brochure and the video tools are easy to understand” (73 % in micro-scale enterprises and 98 % in small-scale enterprises). After additional minor revisions, these tools have been distributed to help improve the mental health situation of these enterprises in Japan.

Keywords Small-scale enterprise · Micro-scale enterprise · Mental health · Employer · Educational tool

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Introduction

Occupational health service activities for small-scale enterprises and micro-scale enterprises are often insufficient in many countries (Bradshaw et al. 2001; Park et al. 2002; Houtman et al. 2007) as they have limited access to human, economic, and technical resources (Champoux and Brun 2003). Thus, workers employed in small-scale enterprises usually have lower quality occupational health service, and sometimes poorer health conditions when compared to their counterpart workers in large-scale enterprises (Furuki et al. 2006; Kubo et al. 2006). Because good occupational health service requires the support of competent occupational health professionals (Nicholson 2004), it could be difficult to provide sufficient occupational health service in small-scale enterprises and micro-scale enterprises which have less access to competent occupational health professionals.

In Japan, the Industrial Safety and Health law stipulates that under the occupational health service provision it is an employer's duty to protect employee health irrespective of enterprise size, and that companies employing 50 or more workers must establish a health and safety committee and appoint an occupational physician (the number of occupational physicians varies as a function of employee numbers; Ministry of Health, Labour and Welfare, Japan 1972). Enterprises with fewer than 50 employees are regarded as small-scale enterprises, and the Japanese government has recently made several efforts to improve occupational health service in small-scale enterprises; for example, Regional Occupational Health Centers have been established to support occupational health service in small-scale enterprises.

The Basic Survey on Industrial Safety and Health (Ministry of Health, Labour and Welfare, Japan 2010) revealed that 87.0 % of enterprises with more than 50 workers had occupational physicians (either with a full-time or part-time contract). As expected, the percentage was higher (99.8 %) for enterprises with more than 1000 workers and lower (80.9 %) for enterprises with 50–99 workers. The percentage for even smaller enterprises was unknown as there was no legal stipulation for small-scale enterprises and micro-scale enterprises regarding contracting occupational physicians. The Survey on the State of Employees' Health (Ministry of Health, Labour and Welfare, Japan 2012) showed that the percentage of enterprises implementing mental health care was low (47.2 %) in Japan. Similar to the appointment of occupational physicians, the percentage was higher (99.1 %) for enterprises with more than 5000 workers and lower (38.9 %) for enterprises with 10–29 workers.

The World Health Organization (Houtman et al. 2007) has also reported that more than 80 % of the workforce was employed in small- and medium-scale enterprises. It is estimated that the percentage would be even higher in developing countries. Small- and medium-scale enterprises, in particular, as well as the informal sector have poor access to occupational health service and other external support. They often lack knowledge about occupational health in general. The occupational health situation in small-scale enterprises and micro-scale enterprises,

including in the Asia-Pacific region, has been reported by several authors (Wang et al. 2009; Kaewboonchoo et al. 2011; Hannerz et al. 2012; Cocker et al. 2013; Lai et al. 2015), but most were limited to cross-sectional studies. Previous research has shown the beneficial effects of interventions designed to reduce occupational stress, such as cognitive behavior improvement (van der Klink et al. 2001; Kimura et al. 2015), supervisor training (Kawakami et al. 2006), and organization-focused intervention (Kobayashi et al. 2008; Tsutsumi et al. 2009). However, most studies have been on middle- and large-scale enterprises, and intervention studies implemented in small-scale enterprises and micro-scale enterprises have been scarce (Kristensen 2005; Merrill 2013). Given that such a large proportion of the workforce globally is employed in small- or micro-scale enterprises, further intervention study in small-scale enterprises and micro-scale enterprises is necessary. Study 1 clarified the attitudes of employers and the situation regarding mental health activities in small-scale enterprises and micro-scale enterprises, and established measures to improve the situation in Japan. Study 2 developed educational tools for improving mental health condition in micro-scale enterprises and small-scale enterprises there.

Study 1: Questionnaire Survey for Employers in Small-Scale Enterprises

Purpose

The study purposes were to clarify the attitudes of employers and the situation regarding mental health activities in small-scale enterprises and micro-scale enterprises, and to establish measures to improve the situation in Japan.

Method

In 2012, a mental health questionnaire was sent to 2603 employers in 10 selected prefectures (Hokkaido, Miyagi, Nigata, Tokyo, Shizuoka, Aichi, Kyoto, Osaka, Okayama, Fukuoka) in Japan. Completed questionnaires were obtained from 1041 employers in enterprises including 367 micro-scale enterprises and 419 small-scale enterprises. The response rate of the questionnaire was 40.0 %.

The questionnaires included items regarding enterprise scales, types of industries, current situations for mental health activities, annual budgets for mental health activities, cooperation with external specialists, future plans for mental health activities, and expectation for external occupational health specialists.

A normal distribution of the data was assumed, and the arithmetic mean and arithmetic standard deviation of the data were calculated. For evaluation of statistical significance, $p < 0.05$ was employed as the cut off. A Kruskal–Wallis test was used to detect possible differences in annual budgets for the mental health activities between enterprise sizes. A Cochran–Armitage trend test was used to detect the possible difference in the expectation for external occupational health specialists between enterprise sizes and other similar parameters. The data were processed using SPSS version 20.0 or Excel 2013.

Results 1: Mental Health Activities of Small- and Micro-Scale Enterprises

Table 16.1 shows employer knowledge on governmental mental health policy by enterprise scale. The percentage of “Yes, I know” answers regarding each mental health policy decreased significantly with the scale of the enterprise ($p < 0.01$ for each policy). For the question on knowledge of depression (i.e., Do you have a good knowledge of depression?), the ratio of the answer “knowing very well” also decreased with the scale of the enterprise ($p < 0.01$, data not shown).

Mental health measures implemented in each enterprise size are shown in Table 16.2. The percentage of measures implemented decreased with the scale of the enterprise ($p < 0.01$), except for employer education.

Results 2: Employer Expectations for Occupational Health Specialists and Annual Budget for Mental Health Activities of Small- and Micro-Scale Enterprises

The main employer expectation for external occupational health specialists was counseling for employees irrespective of enterprise size (Fig. 16.1). Education for employers themselves was the second highest request among employers in micro-scale enterprises. The expectation of employer education increased with the scale of the enterprise, although the difference was statistically insignificant ($p > 0.05$).

Table 16.3 shows the annual budget for mental health activities by enterprise size. A total of 629 enterprises out of 1041 (60.4 %) did not answer the question. Mean budget for mental health activities decreased significantly with the scale of the enterprise ($p < 0.01$, Kruskal–Wallis test). The ratio of the answer “None” increased with the scale of the enterprise as well ($p < 0.01$, Cochran–Armitage trend test). The median of the budget in micro-scale enterprises was 80 US dollars per year and 36.5 % of micro-scale enterprises answered that the budget was none.

Table 16.1 Employers' knowledge on governmental MH policy

	Enterprise scale by number of employees									
	2-9		10-49		50-299		300 and over		Total	
	No. of answers "Yes, I know"	% ^a	No. of answers "Yes, I know"	% ^a	No. of answers "Yes, I know"	% ^a	No. of answers "Yes, I know"	% ^a	No. of answers "Yes, I know"	% ^a
Guidelines on employees' MH promotion	44	12.0	102	24.3	52	40.0	59	47.2	257	24.7
Guidelines on return-to-work of employees with MH disorder	50	13.6	90	21.5	40	30.8	52	41.6	232	22.3
MH portal website	20	5.4	39	9.3	24	18.5	36	28.8	119	11.4
Measures against ill health from overwork	46	12.5	103	24.6	62	47.7	82	65.6	293	28.1

MH Mental health

^aCalculated by total number of enterprises in each scale (2-9: 367, 10-49: 419, 50-299: 130, 300 and over: 125)

Table 16.2 MH measures implemented in enterprises

	Enterprise scale by number of employees									
	2–9		10–49		50–299		300 and over		Total	
	No. of answers	% ^a	No. of answers	% ^a	No. of answers	% ^a	No. of answers	% ^a	No. of answers	% ^a
Counseling for employees	7	1.9	31	7.4	25	19.2	54	43.2	117	11.2
Education for employees	28	7.6	61	14.6	38	29.2	51	40.8	178	17.1
Education for employers	26	7.1	39	9.3	10	7.7	13	10.4	88	8.5
Provision of MH brochures	11	3.0	37	8.8	19	14.6	26	20.8	93	8.9

MH Mental health

^aCalculated by total number of enterprises in each scale (2–9: 367, 10–49: 419, 50–299: 130, 300 and over: 125)

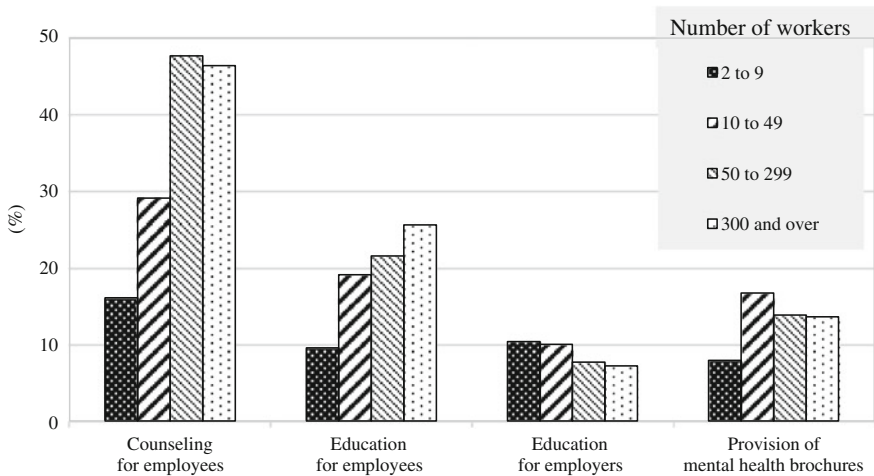


Fig. 16.1 Employers' expectations for occupational health specialists

Discussion

The results of Study 1 show that employer knowledge of mental health problems and mental health measures are insufficient in micro-scale and small-scale enterprises. Although employers in micro-scale enterprises request counseling for

Table 16.3 Annual budget for MH activities in enterprises

	Enterprise scale by number of employees				
	2–9	10–49	50–299	300 and over	Total
No. ^a of answers	189	153	43	27	412
Budget (1000 yen/year)					
Average	34	68	296	4120	342
Minimum	0	0	0	0	0
Median	10	30	100	1000	30
Maximum	1000	500	3000	26,000	26,000
No. ^a of answers as “None”	69	34	5	1	109
%	36.5	22.2	11.6	3.7	26.5

MH Mental health

^aNo.: number 100 Japanese yen was equivalent to 0.8 US dollars

employees and education for themselves (the employers), the budgets for mental health activities were significantly lower than they were for larger enterprises.

In this survey, completed questionnaires were obtained from 1041 employers in enterprises, including 367 micro-scale enterprises and 419 small-scale enterprises. Only a few surveys targeted at micro-scale enterprises and small-scale enterprises have been reported on previously in Japan (Ikeda et al. 2002, Tsuda et al. 2011, Hirata et al. 1999). These surveys were limited to one prefecture and the number of questionnaires obtained was less than 800. Therefore, the present survey was the largest ever nationwide survey for micro-scale enterprises and small-scale enterprises in Japan.

Mean budget for mental health activities decreased with the scale of the enterprise. The ratio of “None” for budget was 37 % in micro-scale enterprises. Moreover, nearly half of employers in micro-scale enterprises (178 of 367 enterprises) did not answer the question. Potentially, employers who have a very low budget for mental health activities might feel hesitant about this question. Therefore, it can be estimated that most micro-scale enterprises cannot spend sufficient money on mental health activities. In this study, counseling for employees was the highest expectation of employers for occupational health specialists. Because counseling cannot generally be offered for free, the study group did not choose counseling as the main solution for improvement of mental health activities in micro-scale enterprises.

Education for employers themselves was the second highest request of micro-scale enterprise employers to occupational health specialists. This survey showed a lack of knowledge of mental health by employers in micro-scale enterprises and insufficient mental health activities in micro-scale enterprises as well. In a review of the literature on preventive occupational health and safety in small enterprises, Hasle and Limborg (2006) summarized that the owner (the employer in a small business is often the owner-manager) is the dominant actor regarding any changes made in small-scale enterprises, and that the personal values and priorities of the owner are determinants of the culture, social relations, and attitude of the

enterprises. Thus, the owner is indeed the key person for occupational health in micro-scale enterprises and small-scale enterprises. Previous reports by Lamm (1997), Nicholson (2004), and Linnan and Birken (2006) corresponded with this.

Based on the results of Study 1, the study group decided to develop a brochure and video tools on mental health for employers in micro-scale enterprises and small-scale enterprises at an affordable price. The results of this are described in Study 2.

Study 2: Development of Educational Tools for Employers in Micro- and Small-Scale Enterprises in Japan to Improve Mental Health Activities

Purpose

The study purpose was to develop educational tools for improvement of mental health in micro-scale enterprises and small-scale enterprises in Japan.

Method 1: Development Process of Tools

Video tools and a brochure on mental health were developed in 2013 for employers in small-scale and micro-scale enterprises. The contents of the tools were decided based on the results of Study 1 and discussion with study group members. The study group selected several major contents regarding manager education in medium- and large-scale enterprises, such as the meaning of mental health issues and how to cope with mental health problems, early detection of employees with mental health problems and their management, and risk regarding violations of the law. An analysis of the questionnaire responses revealed that the main mental health activity of employers was daily communication with employees in micro-scale enterprises (52 %) and small-scale enterprises (64 %). Therefore, the tool includes four sections: “1. Stressors and stress reactions,” “2. Communication,” “3. Early detection,” and “4. Prevention of law violation risk.”

The “Stressor and stress reaction” section includes the cause of the stress reaction, and typical symptom and stressors/buffers of the National Institute for Occupational Safety and Health (NIOSH) model. The “Communication” section includes the basis and points of communication, points of active listening, and stress coping. The “Early detection” section includes early detection of employees with mental health problems, and work burden reduction. “Prevention of law violation risk” includes the worth of mental health measures in enterprises from the viewpoint of legislation and corporate social responsibility, such as cost needed for absent workers, responsibility of employers for damages, and preventive activities against disadvantage to enterprises.

We developed both a brochure and videos on mental health to educate employers. The video tools included four films of presentations by members of the study group. The brochure was 20 pages in total. Each video tool took 5–8 min to watch. The brochure and the videos tools contained essentially the same information.

Method 2: Tool Evaluation by Employers

The study group conducted interviews with employers on these tools in 11 micro-scale enterprises and 18 small-scale enterprises. In the questionnaire survey in Study 1, we included a question “Would you allow us to interview you on your mental health activities?” We visited the employers who answered yes for acceptance.

The study group sent the brochure and the videos to 29 employers several weeks before the interview. A member of the study group visited each employer at his/her office. During the interview, the employers could browse the videos and read the brochure (Fig. 16.2). The interviewer asked about the brochure as a whole and about each section of the videos. The employers evaluated the tools using four choices—“easy to understand,” “somewhat easy to understand,” “relatively difficult to understand,” and “difficult to understand,”—and gave concrete opinions if they wished. Each interview took between 30 and 60 min. Information from interviews was analyzed to help revise the tools.

For an evaluation of statistical significance, $p < 0.05$ was used as the cut off. A Chi-square test was used to detect possible differences of the understanding regarding the tools between small-scale enterprises and micro-scale enterprises. The data were processed using Excel 2013.

Fig. 16.2 Pictured are two employers being interviewed about the tool



Results

All employers completed the interview ($n = 29$). Evaluation of the tools by employers is shown in Table 16.4. Most employers in micro-scale enterprises and small-scale enterprises answered that the brochure and the videos were “easy to understand” or “relatively easy to understand.” The “easy to understand” response was more dominant in the brochure and video 1 in small-scale enterprises (easy to understand vs. others = 88.9 vs. 11.1 %) compared to the micro-scale enterprises (45.5 vs. 54.5 %; $p < 0.05$ by Chi-square test).

Employers’ major opinions were as follows: “both brochure and video tools are informative for understanding the importance of mental health” (e.g., if an employer missed some content in the videos, the content could be found in the brochure, either immediately or later), “information on regional occupational health centers should be more detailed,” “practical examples should be given,” and “we should listen more to our employees.”

Based on the opinions of the employers, the tools were revised. The major revisions were as follows: “the usefulness of regional occupational health centers was emphasized,” “an explanation of the regional occupational health center staff’s confidentiality obligation was added,” and “practical examples were added.” For example, one of the practical examples added was a case of cooperation between social security attorneys and employers for support of a mental health case in micro-scale enterprises.

Table 16.4 Tool evaluation by employers

	Answer			
	Easy	Relatively easy	Relatively difficult	Difficult
MSE				
Brochure	5	3	2	1
Video 1	5	4	1	1
Video 2	6	2	2	1
Video 3	7	1	2	1
Video 4	4	3	3	1
SSE				
Brochure	16	2	0	0
Video 1	16	2	0	0
Video 2	13	4	1	0
Video 3	13	5	0	0
Video 4	12	5	1	0

The topic of the Video 1 was “Stressor and stress reaction.”

The topic of the Video 2 was “Communication.”

The topic of the Video 3 was “Early detection.”

The topic of the Video 4 was “Prevention of law violation risk.”

MSE Micro-scale enterprise, *SSE* Small-scale enterprise

After these revisions, distribution of these tools commenced in January 2015 with expectations that they would help the mental health situation in micro-scale enterprises and small-scale enterprises. The price of the tool (a brochure and video set) was about 7 US dollars. More than 3000 sets have been sold as of the end of August 2015.

Discussion

In Study 2, educational tools for employers regarding mental health were developed. Most employers in small-scale enterprises and micro-scale enterprises who accepted the interview by a study group member evaluated the brochure and videos positively.

In communication with an employer, the documents to be submitted to him/her should be short (Brosseau et al. 2007), easy to interpret (Walker and Tait 2004), industry subgroup-specific (Mayhew 2000) and have practical applications (Mayhew 1997) and good practice examples (Russell et al. 1998). Brosseau and Li (2005) stressed the importance of demonstrating the positive effects of occupational health service on employee health. Using the information as a reference, the study group made the tools short, including the practical examples. Because two types of the tool (the video and the brochure) can be used by the employers in various ways as they wish, the tools may be convenient for them. The employers were suspicious that occupational health specialists would force ideal and unrealistic measures on them in the questionnaire survey of Study 1; therefore, the study group tried to give realistic and concrete measures in the tools. However, in Video 4, “prevention of law violation risk,” the study group gave a court precedent of a large enterprise to assist understanding. Because a precedent of a large enterprise could be unrealistic for the employers in micro-scale enterprises and small-scale enterprises, the rating was relatively lower here compared to the other tools. Therefore, the study group changed the precedent to one which was more suitable for small-scale enterprises and micro-scale enterprises in the revised version of the tools.

The regional occupational health centers are public occupational health centers in Japan, which can be used by employers and employees in enterprises with fewer than 50 employees. There were 325 regional occupational health centers in Japan in 2013, offering services at no charges, including health guidance for employers or employees based on the results of their health check-ups, health guidance for employees with mental health problems, health guidance for employees to solve overwork problems, and advice regarding the provision of work environment improvements based on worksite visits. Several issues still need to be solved, such as the low utilization rate and shortage in labor. The Survey on the State of Employees' Health (Ministry of Health, Labour and Welfare, Japan 2012) revealed that the rate of mental health activities with regional occupational health centers were only 3.9 % in enterprises with 10–29 employees and 7.5 % in enterprises with

30–49 employees. In the present study, nearly 90 % of the employers answered that they have never contacted their regional occupational health centers (data not shown in this chapter) while many commented that regional occupational health centers might be useful and more should be known about them. Therefore, we provided a description of the regional occupational health centers in further detail in the revised version of the tools.

Some employers were afraid that if the staff of regional occupational health centers recognized insufficient mental health activities of their enterprises, the staff might submit a report to the Labour Standards Inspection Office, whose main role is to check whether employers adhere to labor legislation. In the event an employer does not adhere to the legislation, the Labour Standards Inspection Office staff give the employer administrative guidance. These employers might have associated the regional occupational health center services with punishment by the Labour Standards Inspection Office. To assuage employers' concerns, an explanation of the regional occupational health center staff's confidentiality obligation was added to the tools.

The video tools were used for the education of employers in the present study. Several reports exist on the effectiveness of video tools. Brown et al. (2013) reported that a DVD for education of cancer patients and facilitation of workplace communication was seen favorably by cancer patients. E-learning material of stress management for small-scale enterprises was developed by the Miyazaki Occupational Health Promotion Center in Japan (Koiwaya and Tomiie 2005). They reported that this e-learning improved the occupational stress indicator. They also reported that the appearance of employees of the enterprise in the film and the included business specific contents of the enterprise in the film were effective in attracting their employees' interest. The study group considered that video tools, such as animations or TV dramas, could be more attractive than videos of presentations in this study. However, because of budget shortages, this idea did not materialize. It might be necessary to investigate the effects and cost-effectiveness of these kinds of tools in the future.

Psychosocial Factors in Small-Scale Enterprises in the Asia-Pacific Region

Although there is a general lack of studies on psychosocial factors in small-scale enterprises, of the extant studies there are several reports from the Asia-Pacific region. However, most were limited to be cross-sectional studies. Wang et al. (2009) in Taiwan reported that fatigue of employees was associated with a lack of physical exercise, more shift work, higher depression score, and less social support in small-scale enterprises. In Thailand, the workability index of employees in small-scale enterprises was associated with better mental health, higher social

support at work, lower depression score, and lower age (Kaewboonchoo et al. 2011). They concluded that job stress reduction programs should be considered to improve workers' workability indices. An intervention program implemented in small-scale enterprises and micro-scale enterprises was found in the United States. Merrill (2013) reported that a worksite wellness program, including stress management activities, effectively improved health behaviors, health perceptions, and life satisfaction in small- and medium-scale enterprises. Further investigations for improvement of work-related psychosocial factors in small-scale enterprises and micro-scale enterprises in the Asia-Pacific region are expected in the near future.

Relevant Theoretical Frameworks

Participatory occupational risk reduction programs are gaining importance in small-scale enterprises (Kogi 2006). Such employee participatory programs are also effective for improvement of psychosocial factors in workplaces (Yoshikawa et al. 2007; Kobayashi et al. 2008; Tsutsumi et al. 2009). Common characteristics of improvements implemented in small workplaces are shown as "covering multiple technical areas," "mostly simple and low-cost types of improvements in each technical areas," "voluntarily selected by means of joint walkthroughs and small group discussions," and "implemented rapidly." (Kogi 2006).

It could also be important to involve employers in such occupational risk reduction programs. It has been reported that the employer is a dominant actor in relation to any changes made in small-scale enterprises (Hasle and Limborg 2006). The World Health Organization also has stated that employers and worker representatives must be aware and be able to prevent work-related stress in workers (Houtman et al. 2007). Cocker et al. (2013) reported that the owners in small- and medium-scale enterprises with high psychological distress were aware of loss in their productivity. Maintenance of employer physical and mental health is essential for sustainable business of small-scale enterprises and micro-scale enterprises. Therefore, provision of support programs and educational tools for employers should be reasonable not only for employees' health but also employers' health and their business. The advantage of occupational health specialists in small-scale enterprises is that occupational physicians may have better opportunities to educate the employer not only through the activities such as attendance at the occupational health service committee but by direct conversation with the employer.

Houtman et al. (2007) proposed a stepwise approach on work-related stress management in developing countries. This approach could be applied to small-scale and medium-scale enterprises. The approach consists of five steps: Step 1. Detecting signs of work-related stress and taking preparatory actions, Step 2. Analyzing risk factors and risk groups, Step 3. Designing an action plan, Step 4. Implementing an action plan, and Step 5. Evaluating the interventions.

Challenges and Future Directions

Implementation of the Job Stress Questionnaire for employees has become a legal obligation for enterprises in Japan since 2015 (Ministry of Health, Labour and Welfare, Japan 2015). Employers are expected to use the questionnaire results for primary prevention, such as the participatory intervention for workplace improvement. Although primary prevention is not a legal obligation for employers so far, the authors completed a pilot study last year of the participatory intervention for workplace improvement in an enterprise employing eight employees (Kawakami et al. 2015). Participatory occupational risk reduction programs in small enterprises have already accomplished excellent results in several countries (Kogi 2006). Such programs are expected to spread further in the Asia-Pacific region.

The International Social Security Association has developed the “Guide for Risk Assessment in Small and Medium Enterprises.” This addresses small- and medium-scale enterprises as a simple tool for hazard identification, including mental workload and risk assessment in workplaces (International Social Security Association 2010). When implementing the participatory occupational risk reduction programs, use of such risk assessment tools could make the program easier for occupational health specialists, employers, and employees in small-scale enterprises and micro-scale enterprises.

Conclusion

Employer education regarding mental health is important, especially in micro-scale enterprises. Most employers in small-scale enterprises and micro-scale enterprises appreciated our brochures and videos. After minor revisions, we have distributed these tools to help improve the mental health situation in micro-scale enterprises and small-scale enterprises.

Employee participatory programs for improvement of psychosocial factors in workplaces should be applied more to micro-scale enterprises and small-scale enterprises in the Asia-Pacific region.

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References

- Bradshaw, L. M., Curran, A. D., Eskin, F., & Fishwick, D. (2001). Provision and perception of occupational health in small and medium-sized enterprises in Sheffield, UK. *Occupational Medicine*, *51*, 39–44.
- Brosseau, L. M., Fredrickson, A. L., & Casey, M. A. (2007). Small business owners' opinions about written health and safety information. *Industrial Health*, *45*, 209–216.

- Brosseau, L. M., & Li, S. Y. (2005). Small business owners' health and safety intentions: A cross-sectional survey. *Environmental Health: A Global Access Science*, 4, 23.
- Brown, R. F., Owens, M., & Bradley, C. (2013). Employee to employer communication skills: Balancing cancer treatment and employment. *Psychooncology*, 22, 426–433.
- Champoux, D., & Brun, J. (2003). Occupational health and safety management in small size enterprises; An overview of the situation and avenues for intervention and research. *Safety Science*, 41, 301–318.
- Cocker, F., Martin, A., Scott, J., Venn, A., & Sanderson, K. (2013). Psychological distress, related work attendance, and productivity loss in small-to-medium enterprise owner/managers. *International Journal of Environmental Research and Public Health*, 10, 5062–5082.
- Furuki, K., Hirata, M., & Kage, A. (2006). Nationwide survey of occupational health activities in small-scale enterprises in Japan. *Industrial Health*, 44, 150–154.
- Hannerz, H., Ferm, L., Poulsen, O. M., Pedersen, B. H., & Andersen, L. L. (2012). Enterprise size and return to work after stroke. *Journal of Occupational Rehabilitation*, 22, 456–461.
- Hasle, P., & Limborg, H. J. (2006). A review of the literature on preventive occupational health and safety activities in small enterprises. *Industrial Health*, 44, 6–12.
- Hirata, M., Kumagai, S., Tabuchi, T., Tainaka, H., Andoh, K., & Oda, H. (1999). Actual conditions of occupational health activities in small-scale enterprises in Japan: System for occupational health, health management and demands by small-scale enterprises. *Sangyo Eiseigaku Zasshi*, 41, 190–201. (Japanese).
- Houtman, I., Jettinghoff, K., & Cedillo, L. (2007). *Raising awareness of stress at work in developing countries: A modern hazard in a traditional working environment: Advice to employers and worker representatives*. World Health Organization. http://www.who.int/occupational_health/publications/raisingawarenessofstress.pdf.
- Ikeda, T., Nakata, K., Kobori, S., Hojo, M., & Sugishita, C. (2002). Willingness to implement mental health measures among small-scale enterprise employers in Ohta ward, Tokyo, Japan. *Sangyo Eiseigaku Zasshi*, 44, 200–207. (Japanese).
- International Social Security Association. (2010). *Guide for risk assessment in small and medium enterprises*. International Social Security Association. <https://www.issa.int/ja/details?uuiid=451b4c81-ac0c-4272-92f8-b8fe9fe1e0bb>.
- Kaewboonchoo, O., Saleekul, S., & Usathaporn, S. (2011). Factors related to work ability among Thai workers. *Southeast Asian Journal of Tropical Medicine and Public Health*, 42, 225–230.
- Kawakami, N., Takao, S., Kobayashi, Y., & Tsutsumi, A. (2006). Effects of web-based supervisor training on job stressors and psychological distress among workers: A workplace-based randomized controlled trial. *Journal of Occupational Health*, 48, 28–34.
- Kawakami, N., Tsutsumi, A., Haratani, T., Shimazu, A., Odagiri, Y., Yoshikawa, T., et al. (2015). *Development of risk assessment tools for mental health measures in enterprises*. Study report of Ministry of Health, Labour and Welfare, Japan (pp. 98–121). (Japanese).
- Kimura, R., Mori, M., Tajima, M., Somemura, H., Sasaki, N., Yamamoto, M., et al. (2015). Effect of a brief training program based on cognitive behavioral therapy in improving work performance: A randomized controlled trial. *Journal of Occupational Health*, 57, 169–178.
- Kobayashi, Y., Kaneyoshi, A., Yokota, A., & Kawakami, N. (2008). Effects of a worker participatory program for improving work environments on job stressors. *Journal of Occupational Health*, 50, 455–470.
- Kogi, K. (2006). Advances in participatory occupational health aimed at good practices in small enterprises and the informal sector. *Industrial Health*, 44, 31–34.
- Koiwaya, Y., & Tomiie, T. (2005). *Stress management using e-learning system*. Study report of Miyazaki occupational health promotion center. (Japanese).
- Kristensen, T. S. (2005). Intervention studies in occupational epidemiology. *Occupational and Environmental Medicine*, 62, 205–210.
- Kubo, N., Usami, T., Haryuyama, Y., Muto, T., Kimura, K., Yukawa, S., et al. (2006). Characteristics of lifestyle and health status of workers in small-scale enterprises in Japan. *Industrial Health*, 44, 161–165.

- Lai, Y., Saridakis, G., & Blackburn, R. (2015). Job stress in the United Kingdom: Are Small and medium-sized enterprises and large enterprises different? *Stress and Health, 31*, 222–235.
- Lamm, F. (1997). Small businesses and OH&S advisors. *Safety Science, 25*, 153–161.
- Linnan, L. A., & Birken, B. E. (2006). Small businesses, worksite wellness, and public health: A time for action. *North Carolina Medical Journal, 67*, 433–437.
- Mayhew, C. (1997). Small business occupational health and safety information provision. *Journal of Occupational Health Safety: Australia and New Zealand, 13*, 361–373.
- Mayhew, C. (2000). OHS in Australian “micro” small business: Evidence from nine research studies. *Journal of Occupational Health Safety: Australia and New Zealand, 16*, 297–305.
- Merrill, R. M. (2013). A small business worksite wellness model for improving health behaviors. *Journal of Occupational and Environmental Medicine, 55*, 895–900.
- Ministry of Health, Labour and Welfare, Japan. (1972). *Industrial Safety and Health law*. Ministry of Health, Labour and Welfare, Japan. <http://law.e-gov.go.jp/htmldata/S47/S47HO057.html>. [Japanese]
- Ministry of Health, Labour and Welfare, Japan. (2010). *Basic Survey on Industrial Safety and Health*. Ministry of Health, Labour and Welfare, Japan. http://www.mhlw.go.jp/toukei/list/dl/49-22_4.pdf.
- Ministry of Health, Labour and Welfare, Japan. (2012). *Survey on State of Employees' Health*. Ministry of Health, Labour and Welfare, Japan. http://www.mhlw.go.jp/toukei/list/dl/h24-46-50_01.pdf.
- Ministry of Health, Labour and Welfare, Japan. (2015). *Summary of stress check system based on amended Industrial Safety and Health Law*. Ministry of Health, Labour and Welfare, Japan. <http://www.mhlw.go.jp/file/05-Shingikai-11201000-Roudoukijunkyoku-Soumuka/0000057447.pdf>.
- Nicholson, P. J. (2004). Occupational health services in the UK—Challenges and opportunities. *Occupational Medicine, 54*, 147–152.
- Park, H., Ha, E., Kim, J., Jung, H., & Paek, D. (2002). Occupational health services for small-scale enterprises in Korea. *Industrial Health, 40*, 1–6.
- Russell, R. M., Maidment, S. C., Brooke, I., & Topping, M. D. (1998). An introduction to UK schemes to help small firms control health risks from chemicals. *The Annals of Occupational Hygiene, 68*, 699–704.
- Tsuda, Y., Tsukahara, T., Uchida, M., Washizuka, S., & Nomiya, T. (2011). Present status of mental health management in small-scale enterprises in Nagano prefecture, Japan. *The Shinshu Medical Journal, 59*, 163–168. (Japanese).
- Tsutsumi, A., Nagami, M., Yoshikawa, T., Kogi, K., & Kawakami, N. (2009). Participatory intervention for workplace improvements on mental health and job performance among blue-collar workers: A cluster randomized controlled trial. *Journal of Occupational and Environmental Medicine, 51*, 554–563.
- van der Klink, J. J., Blonk, R. W., Schene, A. H., & van Dijk, F. J. (2001). The benefits of interventions for work-related stress. *American Journal of Public Health, 91*, 270–276.
- Walker, D., & Tait, R. (2004). Health and safety management in small enterprises; An effective low cost approach. *Safety Science, 42*, 69–83.
- Wang, F. W., Chiu, Y. W., Tu, M. S., Chou, M. Y., Wang, C. L., & Chuang, H. Y. (2009). Chronic fatigue of the small enterprise workers participating in an occupational health checkup center in southern Taiwan. *International Archives of Occupational and Environmental Health, 82*, 819–825.
- Yoshikawa, T., Kawakami, N., Kogi, K., Tsutsumi, A., Shimazu, M., Nagami, M., et al. (2007). Development of a mental health action checklist for improving workplace environment as means of job stress prevention. *Sangyo Eiseigaku Zasshi, 49*, 127–142. (Japanese).