

## **Challenges of Implementing Occupational Health Services (OHS) in Malaysia –Perspective of Occupational Health Doctors**

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### **ABSTRACT**

Mortality estimation due to work-related illness has reached up to 2.4 million each year. The current coverage of occupational health services (OHS) in Malaysia is still low.

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Occupational health doctors (OHDs) are one of the essential personnel to ensure proper execution of OHS. This study was conducted to explore the experiences and views of OHDs on the challenges in implementing OHS in Malaysia. Four focus group discussions were conducted with OHDs (N = 23) from four different states in Malaysia in 2016. Another five OHDs participated in in-depth interviews to implement the identified codes or themes. The discussions were recorded and transcribed verbatim. NVivo version 11.0 was used to facilitate

data analysis. The data were analysed following the thematic analysis guidelines. Three themes were identified from the discussions: difficulties in diagnosing occupational diseases and poisoning; poor practices, attitudes, and commitment by both workers and employers; and non-compliance with laws and regulations related to the industries. The common challenges discussed by the participants were the lack of knowledge and skills among OHDs, and the shortage of standard procedures, leading to difficulties to screen occupational diseases. The poor cooperation and behaviour from the industries also hindered OHDs when performing their services. This study suggests better training and provision of standard tools or guideline to assist OHDs in making occupational disease diagnoses, increasing OHS awareness among the industries, and enacting OHS as part of the laws and regulations with adequate enforcement.

*Keywords:* Challenges, Malaysia, occupational health doctor, occupational health services, qualitative study

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## INTRODUCTION

Global estimates of mortality due to work-related illness have climbed to 2.4 million cases annually (Hamalainen et al., 2017). The International Labour Organization (ILO) estimates an additional 160 million cases of non-fatal work-related diseases each year. These numbers do not reflect the burden of occupational diseases well because the national statistics from most

countries is based on estimates (ILO, 2015). Despite many countries establishing their own registry and reporting systems for occupational diseases, underreporting is still considered a significant concern (Lenderink et al., 2010; Spreeuwers et al., 2008, 2010). Collecting accurate statistics depends heavily on correct diagnosis and reporting of occupational diseases. Furthermore, accessibility to OHS is critical.

OHS includes comprehensive prevention, diagnostics, promotion, treatment, and rehabilitation (Boschman et al., 2017; Rantanen, 2005; Rantanen et al., 2013). OHDs are one of the essential professions to obtain a good OHS as they are the experts involved with promoting and maintaining workers' health and well-being; overseeing, handling and monitoring any incidence related to occupational diseases and work-related injuries, including pre-employment medical examinations, medical surveillance and return-to-work programme; and maintaining the workers' medical histories, reports and other medical records (Department of Occupational Safety and Health [DOSH], 2005; Kirch, 2008). By actively engaging with both employers and employees, they can also assist the preventive activities in the company by giving advice and assisting in planning and re-adjusting a workflow to minimize or eliminate risks and exposure to hazards.

Although, most countries have OHS agendas and policies, the workers in two-thirds of these countries have poor accessibility to the services (Rantanen et al., 2013). Countries like India, with large

working populations and low availability of OHDs, report poor OHS accessibility while countries like Finland and Croatia, with small working populations and high availability of OHDs, have high OHS accessibility (Rantanen et al., 2017).

The statistics from the Department of Occupational Safety and Health (DOSH) in Malaysia revealed that 3,890 cases were confirmed as occupational diseases and poisoning in 2017 (DOSH, 2017). The reported low prevalence of occupational diseases in Malaysia (0.02%) may not reflect the reality. The current coverage of OHS in Malaysia remains low, with approximately one OHD per 26,756 employees (DOSH, 2018; Department of Statistics Malaysia, 2018). The prevalence of occupational diseases in Japan (0.01%) and France (0.18%) are relatively low due to their high accessibility of OHS, with one OHD per 685 employees in Japan, and one per 5,477 employees in France (Eurogip, 2018; Japan Statistics Bureau, 2018; Mori, 2018; "Number of physicians", 2018; Organization for Economic Co-operation Development, 2018).

DOSH Malaysia has published the Guidelines of Occupational Health Services (DOSH, 2005) to assist OHDs and employers in implementing OHS. However, the poor occupational disease reporting reflects insufficient application of the guideline in their work. In addition to the small number of OHDs per population in Malaysia, there might be other problems faced by the OHDs, leading to poor OHS. This study was conducted to explore the challenges experienced by OHDs when providing

OHS in Malaysia. The results of the study will help the authorities to prioritize actions in improving OHS and workers health in Malaysia.

## METHODS

The study was conducted among OHDs in Malaysia as part of a more extensive study to investigate the role of OHS and early screening of occupational diseases in small and medium industries. The data in this study were collected through a qualitative study design by conducting focus group discussions (FGDs) and in-depth interviews. A total of four FGDs and five in-depth interviews were conducted in this study. Twenty-eight OHDs participated (24 males and 4 females). They ranged in age from 30 to 63 years, with a median age of 49 years while the participants' experience as OHDs ranged from 3 to 18 years, with a median of 13 years. Most participants had been providing OHS in private clinics or private hospitals. Two participants were recruited from government hospitals where they provided OHS to the public.

Specific criteria were used to recruit the participants. Referring to the list of registered OHDs in the DOSH's website, OHDs were selected through purposive sampling based on their workplace and years of experience as an OHD. Comparable to the study conducted by Tateishi et al. (2016), the OHDs recruited for this study had a minimum of three years of working experience. They were contacted via emails, phone calls and text messages via mobile phone application to obtain

their verbal agreement to participate in this study. Afterwards, they were provided with invitation letters, information sheets, and consent forms. Moreover, they were assured that their participation in the study was voluntary, and that their personal details would be kept confidential.

Participants for FGDs were chosen from four selected states in Malaysia: Pahang, representing the east coast of West Malaysia; Selangor, representing the west coast of West Malaysia; and Sabah and Sarawak, representing the East Malaysia. The participants in each state met in a meeting room at DOSH state offices, deemed a suitable location to conduct the study because it was convenient location for the participants and free of interference (Freitas et al., 1998). The study was conducted over five weeks from July–August of 2016. The average number of FGD participants in previous studies in the literature ranged from four to eight people (Carlsen & Glenton, 2011; Di Bona et al., 2017; Freitas et al., 1998). In our study, each FGD was comprised of five to seven participants, depending on their availability on the discussion day.

The facilitators explained the objectives of the FGD, and the participants were encouraged to ask questions before the discussion to ensure that they understood the topics to be discussed. The participants were again assured of confidentiality. A set of semi-structured open-ended questions were employed to ensure consistency among the discussion and that relevant issues were covered (Ramano & Buys, 2018). Hollis et al. (2002) recommended the type of questions to be utilized in the FGDs. Table 1 shows the key domains presented to the participants in the FGDs.

Each FGD session was digitally recorded using an audio–video recorder, with the participants’ permission. The sessions lasted between 1 hour 40 minutes and 2 hours 15 minutes. The FGDs were transcribed verbatim, and key findings from the discussion were translated from Malay to English. Each FGD was labelled alphabetically, and the participants were coded with a number to ensure their confidentiality; for example, ‘FGD A’ referred to which discussion group the participant was assigned, and ‘P1’ was the code of one particular participant. The

Table 1

*Key domains used in FGD*

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Key Domains
<ul style="list-style-type: none"><li>• Doctors’ experiences in offering Occupational Health Services to industries</li><li>• Constraints in the execution of OHS</li><li>• Compliance with the laws related to the occupational health and safety</li><li>• Issues/problems faced from the industries when conducting OHS</li><li>• Suggestions for OHS improvement</li><li>• Other issues related to implementing OHS in the industries</li></ul>

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data were analysed using thematic analysis (Braun & Clarke, 2006) and sorted into suitable themes and sub-themes using NVivo Pro software version 11. Then, the themes and subthemes were reviewed by the researchers, and clarifications were added to the description of the themes and sub-themes.

After the researchers completed the analysis of the four FGDs, in-depth interviews were conducted for data triangulation, data saturation and further exploring certain subthemes (Fusch & Ness, 2015; Halcomb & Andrew, 2005; Lambert & Loiselle, 2008; Morgan, 1988). A few OHDs from other states were chosen and contacted for in-depth telephone interviews

(Morgan, 1988). Five OHDs gave their consent to participate in the interview, and each 15–30 min interview was recorded. Similar to the FGDs, the interviews were transcribed and NVivo version 11 was used to analyse the data. Each OHD involved in the interview was coded according to their participation sequence, such as ‘OHD 1’ and ‘OHD 2.’ Notations of ‘...’ were used to indicate conversation not relevant to the topic being discussed, and were excluded from the description of the content in both the FGDs and the telephone interviews. Data from the in-depth interview were then used to further reinforce the themes and sub-themes.

Table 2

*Main themes and sub-themes in discussions and interviews*

Main themes	Sub-themes
i. Difficulties in screening occupational diseases and poisoning	<ul style="list-style-type: none"> <li>• Lack of knowledge and experience of the OHDs</li> <li>• Lack of standardized tools to screen occupational diseases and poisoning</li> <li>• Inconsistent interpretation of legal terms in OSHA 1994</li> </ul>
ii. Poor practices, attitudes, and commitment by both workers and employers	<ul style="list-style-type: none"> <li>• Workers’ behaviour towards OHS</li> <li>• Poor organizational commitment to occupational health services</li> <li>• Feeling pressured by notification requirements</li> </ul>
iii. Non-compliance with laws and regulations related to the industries	<ul style="list-style-type: none"> <li>• Lack of enforcement by DOSH officers</li> <li>• Lack of legal compliance from the industries</li> <li>• Necessity of legal evaluation due to ambiguities in the current laws and regulations</li> </ul>

## RESULTS

When examining information gathered from the participants, the thematic analysis identified three main themes describing the OHDs' challenges in implementing OHS in Malaysia: i) Difficulties in diagnosing occupational diseases and poisoning; ii) Poor practices, attitudes, and commitment by both workers and employers; and iii) Non-compliance with laws and regulations related to the industries. The main themes and sub-themes are presented in Table 2.

### **Difficulties in Screening Occupational Diseases and Poisoning**

**Lack of Knowledge and Experience of the OHDs.** Doctors in three FGDs discussed at length the difficulties in screening occupational diseases. They expressed that most medical officers did not record proper work histories and did not correlate symptoms with occupational exposure at work. Usually, patients were given medications and authorized to return to the same hazardous working environment. As described by one male participant in FGD A:

If they do not know what to do, they will not be able to medically remove a particular employee. So again, you come back to square one (P1).

Participant 2 from the same group expressed that the knowledge of most OHDs in Malaysia was outdated and not progressing. He also stressed the importance of OHDs to practice and gain experience to solve issues related to the OHS, especially among OHDs whom were rarely involved

in providing services to the industries. Furthermore, a female participant from FGD C voiced her concern about the newly registered OHDs in Malaysia. Through her own experience, she stated that she was confused, not knowing where and how to start working as an OHD after she was registered as a competent OHD with DOSH. This was comparable to OHD 3 as he stated that he did not know how to provide the services and needed a mentor to guide him after getting his competency certificate.

Another female participant from FGD D expressed her concern that a doctor lacking in both knowledge and experience reported incorrect results, leading to underreporting of occupational diseases and exposures to hazardous substances. Most participants agreed that without adequate knowledge and experience, OHD could not make a correct screening for an occupational disease.

### **Lack of Standardized Tools to Screen Occupational Diseases and Poisoning.**

It is worth noting that several participants discussed this sub-theme thoroughly in all FGDs and commented on the difficulties of diagnosing certain occupational diseases. When providing the services, OHDs might use different tools to screen occupational diseases. The results might vary due to the different tools used, as expressed by a participant from FGD A:

“For me, I feel you should standardize a diagnostic tool. Consider pain for example. I can say I have a certain tool for pain. He [another doctor] may have another tool. So, when we report it to

DOSH, since we don't standardize, it will vary" (P1).

A male participant in FGD C suggested that DOSH should provide standardized screening tools for the companies to adhere to the instructions. Participant 2 from the same FGD group had particularly complained that due to the lack of standardized tools and procedures, OHDs found it difficult to assess the workers' health since some companies would omit a few parameters during the pre-employment assessment, yielding inadequate results on confirming the health impacts of the workers with their job scope. This issue was discussed thoroughly by the participants from FGD C as most of them expressed the need to have standardized screening tools to screen for occupational diseases.

**Inconsistent Interpretation of Legal Terms in OSHA 1994.** Some OHDs conveyed that they had experienced problems when they suspected the workers had an occupational disease, and requested that the company to notify DOSH. One participant expressed his frustration, saying:

"But when I tried to notify about a disease, the company said it's too early. We needed to find out whether the patient actually had the disease due to the work or for some other reasons. The patient was young (age 32) with no history of illness or renal impairment or drug abuse ... When should I notify? Did we need to notify now or after the nephrologist confirmed it? That's another problem I've had" (FGD B, P6).

A male participant expressed repeatedly during the discussion that the company would take action against him if he reported a case of occupational disease or poisoning without confirmation of the diagnosis. He further explained by giving an example of a case of occupational asthma as it was difficult to confirm whether its cause was occupational-related or due to other confounding factors.

Other participants argued and said that he needed to notify DOSH whenever he suspected a worker had an occupational disease without waiting for confirmation from a specialist. He remarked that the interpretation of the word 'believe' varied among OHDs. They should have a strong reason for their suspicions before notifying DOSH to avoid any action taken by the company. This issue was reinforced with a similar connotation by OHD 3 as he said the company might not be happy if he reported without confirming the occupational disease. Meanwhile, OHD 5 gave his own interpretation on this issue as he said:

"The word 'believe' is very subjective, right?... So, I would say, if I believe, then there is more than 50% chance of the disease"

### **Poor Practices, Attitudes, and Behaviours by Both Workers and Employers**

**Workers' Behaviour Towards Implementation of OHS.** The participants eagerly discussed that even though some companies showed enthusiasm and

willingness to hire OHDs to provide their services, some of their workers were not cooperative. Both Participant 3 in FGD A and participant 6 in FGD D had complaints on employees' cooperation as they noted that some employees did not give full cooperation during health assessment, making it challenging for OHDs to capture accurate results of the workers' health conditions. OHD 2 had also experienced a similar situation. He mentioned that some workers appreciated the health consultation, but they were often reluctant to reveal the truth about their job exposure.

Besides lack of cooperation, most of the workers were not aware of the health hazards involved with their jobs. Two participants from FGD B expressed their concerns about this issue:

"I think awareness among the workers is the most basic thing they should have. When the workers are aware, they will know whether they need to see a doctor or not" (P5).

"...We cannot do medical surveillance straightaway without doing CHRA [Chemical Health Risk Assessment]. The majority of the workers in Malaysia don't even know what chemicals they are handling" (P4).

Several participants agreed that to increase their awareness, workers needed to be briefed on the hazards and risks associated with their jobs.

### **Poor Organizational Commitment to Occupational Health Services.**

Some participants expressed difficulties entering the premises to offer their services to the companies. Participant 7 in FGD D stated that some companies were not interested even when they offered free services. A female participant in FGD C also corroborated the sentiment as she said:

"Although we serve as panel clinics for certain companies, to reach out to other new companies is really difficult unless top management or DOSH has pushed the company to reach out for our services. Only then would they look for a panel clinic for the company" (P2).

Besides the lack of interest from the companies, most participants also expressed disappointment on the issue of safety and health behaviours displayed among the employers. Both Participant 2 from FGD A and FGD C expressed that some companies were not willing to spend money to implement occupational health services unless a problem has occurred, or the expenditure was deemed necessary. This was further supported in the discussion among all participants on the ignorance of the companies' top management to improve safety and health at the workplace. A male participant from FGD A said:

"Once we convinced them that there was a noise-induced hearing loss risk, the problem was actually with the system. As the company did not want to change the system, they would only

protect the workers by giving them proper personal protective equipment. Hence, the problem was not resolved... you'll keep on receiving cases from the industries" (P3).

A few participants from FGD A agreed that occupational health services could be executed smoothly when the companies were interested and willing to invest their resources in the services.

Concerns were shown when SMEs were brought into the discussion. A female participant from FGD D with fifteen years of experience expressed her worry about small and medium enterprises (SMEs) having constraints to implement even the basic occupational safety and health standards. Participant 6 from FGD D expressed his agreement, saying:

"At SMEs, people just walk in off the street when there are job vacancies, not considering what kind of company it is, and with no pre-medical check-up done and no screening."

Similar situations were expressed in FGD B discussions as two participants were in agreement that most SMEs were not aware of the existing laws related to occupational safety and health, particularly on the workers' well-being. Participant 2 from FGD A also described that unlike big companies with established systems to monitor OHS, SMEs might have many severe issues that needed to be taken care of as they had not established specific standards to follow.

**Feeling Pressured by Notification Requirements.** The majority of the participants were frustrated when a notification issue was questioned. For example, one participant stated:

"You are nice to the workers, but the company is not being nice to you. They replace you or terminate your contract. So, where are we now? How can we work fairly for the workers? ... I think when you're going for the screening in the industries, the doctors also have to be protected" (FGD A, P2).

Another male participant expressed his regret about a recollection of his colleague:

"My colleague was my junior and not an OHD. She notified about a case of chemical splash in this one company, and apparently one of her staff faxed it to the company instead of to DOSH. So, the company found out and pressured her, 'Why did you notify? You shouldn't notify this'" (FGD B, P6).

A similar frustration was expressed by participant 3 from FGD D. He said he could not notify DOSH as he did not have a clear evidence about the employee's occupational disease. He strongly expressed his fear that the company would sue or fire him if they knew he had notified DOSH.

### **Non-Compliance with Laws and Regulations Related to the Industries**

**Lack of Enforcement by DOSH Officers.** Another issue that was extensively discussed among the OHDs was the lack of enforcement by DOSH officers. A participant from

FGD D stated that Malaysia has already established a few laws and regulations that were on a par with international standards. He questioned DOSH's action on the proper implementation of the regulations. He expressed his opinion that Malaysia was one of the worse countries when it came to enforcing occupational safety and health laws. Another participant expressed his disappointment as he detailed:

“Yes, implementation, implementation. You have everything in black and white. Beautiful. A full SOP is there, nicely done, but there is no implementation” (FGD D, P1).

One participant from FGD A complained that routine visits to the workplace by DOSH officers were lacking, and usually based on complaints they received. Participant 2 from the same group of FGD also expressed his concerns and suggested there should be a new working procedure requiring DOSH to make visits, with or without complaints from the company. He also questioned particularly on the enforcement effectiveness of the current legislation pertaining to occupational health as many companies still did not follow the law.

Nevertheless, a participant commented that the reason for the small number of routine visits to the industries might be due to the lack of manpower at DOSH. He expressed:

“But the thing is, they don't have enough manpower to do so. You know, to make routine checks and surprise visits” (FGD A, P3).

OHD 4 supported the fact that DOSH enforcement activities were inadequate due to lack of manpower, insufficient knowledge of legislative requirements, and inadequate qualifications to do the job.

**Lack of Legal Compliance from the Industries.** Although certain laws have been established for many decades, Participant 2 from FGD A expressed that it took time for the industries to implement the laws on their premises. He also expressed that new regulations enacted would be more difficult for them to implement immediately. A participant from the same discussion group described the unsatisfactory reports submitted from some companies to DOSH, mentioning:

How many of them actually reported to DOSH? Some of the companies reported zero accidents. Was there really zero accident?... Are you going to get the correct findings?... So, how do you know that these particular workers are actually being well taken care of? (FGD A, P1).

Participant 4 from FGD B expressed his agreement, indicating that some companies did not even implement the basic regulations, such as having a safety policy and a safety committee in their company.

One participant expressed his opinion that most companies would only comply if there were laws and said:

“... Most companies will comply if the law is there. If not, people forget about it... because with the law, if we don't do this, we get fined. Whatever it is,

companies need to comply with that law” (P5, FGD B).

**Necessity of Legal Evaluation due to Ambiguities in the Current Laws and Regulations.** Some OHDs suggested enthusiastically the need to evaluate the current laws and regulations. A participant from FGD A, who had more than 10 years of experience working as an OHD, suggested a law that necessitated a visit by an OHD to offer OHS maybe once in four or six months. He also insisted that occupational health services would not progress if they were not regulated. He further expressed that DOSH should establish a new regulation to protect the OHDs from contract termination when they reported occupational diseases to DOSH.

On the other hand, a male participant from FGD C expressed his concerns, specifically on the need to review certain regulations. He stated:

“... There are millions of chemicals. Each chemical is different. How are you going to conduct the best surveillance for the workers? For me, that is impossible... unless you have a database constantly updated, as compared to the current one, like schedule 1 and schedule 2” (P4).

A similar opinion was also stated by OHD 4 as he expressed that the current legislation although was sufficient, should be improved with certain regulations.

## DISCUSSION

The OHDs’ role in providing OHS services to the industries is vital to manage and maintain workers’ physical and mental well-being. Currently, to the authors’ knowledge, this study was the first qualitative study in Malaysia to explore, consolidate, and portray the OHDs’ perspectives regarding the challenges they faced when administering OHS services in the industries. Identifying these challenges will serve to facilitate the development of novel policies and may improve OHDs’ current practices.

From the exploration of the ideas and opinions of the participants, three themes emerged: difficulties in diagnosing occupational diseases and poisoning; poor practices, attitudes, and commitment by both workers and employers; and non-compliance with laws and regulations related to the industries. From the list of themes, these challenges were discussed accordingly. The present study found numerous challenges experienced by OHDs while providing services in the four Malaysian states examined in this study. These challenges were derived from the workers, employers, and even from DOSH officers.

### Difficulties in Screening Occupational Diseases and Poisoning

The current study found that OHDs had difficulties associating exposure to hazards at the workplace with occupational diseases. Based on the participants’ opinions, these difficulties are due to the lack of knowledge

and experience in providing the services. Both previous and present studies point out that OHDs face many hurdles in giving proper screening of occupational diseases and poisoning (Lenderink et al., 2010). The results from previous studies by Rosenman et al. (1997) and Kwon et al. (2015) are in agreement with the current study that the underreporting of occupational asthma is due to OHDs not being aware of the symptoms related to occupational asthma. They are also unfamiliar with the diagnosing procedure, leading to failure to associate the disease with work-related exposures. With the support from the stakeholders, opportunities to practice need to be created for OHDs to improve their knowledge and experience as suggested by one of the participants. The study by Los et al. (2019) gave a similar suggestion that the knowledge and skills of OHDs could be improved with more trainings and instructions on workers' health surveillance.

Based on discussions with the participants of the study, it is difficult to confirm workers' occupational health-related conditions, as there is a lack of standardized tools to screen occupational diseases. Consequently, the incidence of occupational diseases is underreported. For example, there was no consensus among the OHDs as to the usage of standardized and validated screening tools to screen musculoskeletal disorders. Previous research has underscored the importance of continual improvement of standardized procedures in screening, diagnosing, and reporting occupational diseases (Spreeuwerts et al.,

2008). A study by Boschman et al. (2017) urged the development of step-by-step guidelines with comprehensive information and additional educational approaches, such as professional meetings and case histories, to support OHDs in their decision-making regarding occupational diseases. Spreeuwerts et al. (2010) proposed evidence-based guidelines development with proper trainings for OHDs to possibly improve the quality of occupational disease reporting.

The term 'believe' in NADOPOD 2000 regulation (Malaysian Occupational Safety and Health Act [OSHA], 1994) has become a conflictive issue in occupational disease notification among the participants. The current study found that OHDs had differing perceptions of the word, leading them to seek various qualifiers before they notified DOSH. Most OHDs assigned to industries found themselves in a tight situation and would prefer the employers to notify DOSH. Companies often insisted on confirming the diagnosis rather than using the screening results to notify DOSH as mentioned in the discussion among the participants. These obstacles may cause underreporting of occupational diseases and poisoning, and delay the course of action from DOSH. It is vital to have consistency among the OHDs to determine when they should report to the DOSH about a case of occupational disease. Previous study also suggested the importance of uniformity in enforcing the laws and regulations between individual OSH inspectors, and between the local government offices (Niskanen, 2015).

### **Behaviour of the Industries**

This study found that the cooperation from industry was poor when OHDs offered their services. Employees were also reluctant to provide proper information during consultation with OHDs. According to Azaroff et al. (2002), this scenario may be due to the fear of disciplinary actions taken by the employer if they reveal the truth about their exposures at work. However, in accordance with Reese (2015), the current study recommended employees to disclose information regarding their work-related exposures to OHDs to ensure proper execution of OHS.

Employees awareness was also discussed by the participants in this study. Most of the workers are not aware of the hazardous exposures involved in their jobs. They are not properly informed, instructed and trained on hazards and safety procedures involved with their jobs (Lucchini & London, 2014). Lenderink et al. (2010) mentioned that workers were likely to lack knowledge and to fail to recognize that they were unhealthy. A prior study concluded that many workers were ignorant of hazardous exposures and poor working environment (Singh & Sekhon, 2018). They suggested that workers should be more adequately instructed, and their health should be monitored annually.

The study found that most SMEs were not aware of the requirements in OSHA 1994 and Factories and Machinery Act 1967. Furthermore, the participants of this study were also in agreement that the SMEs had insufficient resources to implement the

OSH regulations. This result is in line with a previous study, in which SMEs have poor OHS management due to a lack of manpower, financial, and substantive resources (Zhang & Zuo, 2012). Hasle and Limborg (2006) found that SMEs were unable to fulfil the legislative requirements for prevention and control of OHS as they had limited resources and financial constraints for implementing control measures in accordance with legal requirements.

### **Compliance with Legal Requirements**

Factors related to legal requirements that emerged from the study were the lack of enforcement, the need for evaluating the laws, and the scarcity of compliance among the industries. This research finding revealed that the lack of enforcement was possibly due to a shortage of DOSH's human resources. Rampal and Nizam (2006) also stated that inspection of the workplaces all over the country could be hindered due to the lack of DOSH personnel. The current study saw the need of increasing the number of DOSH officers in order to conduct a proper enforcement of occupational safety and health laws and regulations. It is essential to have appropriate human resources management in order to provide high quality health services (Kabene et al., 2006; Rantanen, 2005).

There are no specific OHS regulations in Malaysia except the requirement for medical surveillance of workers exposed to hazardous chemicals or materials at work (Malaysian Factories and Machinery Act [FMA], 1967; OSHA, 1994). Unlike

Malaysia, the Netherlands and Japan have legal requirements that compel industries to hire OHDs to provide OHS although there are differences in service patterns between the two countries (Moriguchi et al., 2010). Martinsson et al. (2016) also corroborated regarding the legislation of OHS, highlighting the commitment from employers to comply and implement OHS.

### **Strength and Limitation**

Due to the qualitative nature of the findings, it was not possible to achieve the information generalization beyond the scope of the subjects who participated in the study. This study was only limited to an exploration study and was not representative of the whole population. Despite achieving the participants' homogeneity, the study's result might be affected by the expanding of interests and opinions of each participant as it might be different based on their working areas, working environment and experience. However, the results generated could provide an insight to the researchers, practitioners, labour unions, and various government agencies pertaining to the situations and problems faced by the OHDs as a part of the OHS system in the country. Based on the results of this study, a quantitative survey was conducted among OHDs in Malaysia to comprehend the magnitude and full burden faced by them in providing their services; this would be reported elsewhere.

### **CONCLUSION**

The study concluded that there were various challenges faced by OHDs which contributed to the poor coverage of OHS and low occupational disease reporting in Malaysia. The common challenges among OHDs are the insufficient knowledge and skills to screen the occupational diseases, and the scarcity of standardized procedures which results in difficulties to conclude that a patient may have a disease—occupational or non-occupational. Another challenge is the crucial need for the OHS laws and regulations to be implemented, and a review of the human resources required to enforce the law. Finally, the issue of the industries' behaviours should be addressed, including poor OHS awareness, lack of training, poor cooperation, and financial constraints.

In order to equip OHDs with the required knowledge and skills to make effective decisions in screening for occupational diseases and exposure to hazardous substances, content revision and improvements in the current OHD competency courses are urgently needed. Safety and health experts together with representatives from the government need to arrive at a consensus through joint discussions on the development of standardized tools that can be used by all OHDs and safety professionals. Experts, authorities, and lawmakers need to review the need for OHS requirements, strengthening the government's human resources to cover and monitor the vast number of industries in the country. Furthermore, authorities, OHDs,

and safety professionals need to work together to conduct awareness programs to educate employers and employees on OHS and related matters.

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## REFERENCES

- Azaroff, L. S., Levenstein C., & Wegman D. H. (2002). Occupational injury and illness surveillance: Conceptual filters explain underreporting. *American Journal of Public Health*, 92, 1421-1429. <https://doi.org/10.2105/ajph.92.9.1421>
- Boschman, J. S., Brand, T., Frings-Dresen, M. H. W., & van der Molen, H. F. (2017). Improving the assessment of occupational diseases by occupational physicians. *Occupational Medicine*, 67(1), 13-19. <https://doi.org/10.1093/occmed/kqw149>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Carlsen, B., & Glenton, C. (2011). What about N? A methodological study of sample-size reporting in focus group studies. *BMC Medical Research Methodology*, 11, Article 26. <https://doi.org/10.1186/1471-2288-11-26>
- Department of Occupational Safety and Health. (2005). *Guidelines of Occupational Health Services 2005*. Department of Occupational Safety and Health, Malaysia.
- Department of Occupational Safety and Health. (2017). *Occupational diseases and poisoning investigation*. Author. <https://www.dosh.gov.my/index.php/572-statistics/occupational-diseases-statistic/1862-occupational-diseases-and-poisoning-investigation>
- Department of Occupational Safety and Health. (2018). *List of competent persons*. Author. <http://mykkp.dosh.gov.my/Semakan.aspx>
- Department of Statistics Malaysia. (2018). *Key Statistic of Labour Force in Malaysia*. Department of Statistic Malaysia. September 2018. <https://www.dosm.gov.my/v1/index.php?r=column/pdfPrev&id=TmgwQ0R2a2VteHM3SEg0aUJqU25UZz09>
- Di Bona, L., Wenborn, J., Field, B., Hynes, S. M., Ledgerd, R., Mountain, G., & Swinson, T. (2017). Enablers and challenges to occupational therapist research engagement: A qualitative study. *British Journal of Occupational Therapy*, 80(11), 642-650. <https://doi.org/10.1177/0308022617719218>
- Eurogip. (2018). *Statistical review of occupational injuries FRANCE - 2016 data*. [https://www.eurogip.fr/images/pdf/Eurogip-135EN\\_Stat\\_Occ-Review-France2016.pdf](https://www.eurogip.fr/images/pdf/Eurogip-135EN_Stat_Occ-Review-France2016.pdf)
- Freitas, H., Oliveira, M., Jenkins, M., & Popjoy, O. (1998). *The focus group, a qualitative research method*. [http://gianti.ea.ufrgs.br/files/artigos/1998/1998\\_079\\_ISRC.pdf](http://gianti.ea.ufrgs.br/files/artigos/1998/1998_079_ISRC.pdf)
- Fusch, P. I., & Ness, L. (2015). Are we there yet? Data saturation in qualitative research. *The Qualitative Report*, 20(9), 1408-1416. <https://doi.org/10.46743/2160-3715/2015.2281>
- Halcomb, E. J., & Andrew, S. (2005). Triangulation as a method for contemporary nursing research.

- Nurse Researcher*, 13(2), 71-82. <https://doi.org/10.7748/nr.13.2.71.s8>
- Hamalainen, P., Takala, J., & Tan, B. K. (2017). *Global estimates of occupational accidents and work-related illnesses 2017*. Workplace Safety and Health Institutes. <http://www.icohweb.org/site/images/news/pdf/Report%20Global%20Estimates%20of%20Occupational%20Accidents%20and%20Work-related%20Illnesses%202017%20rev1.pdf>
- Hasle, P., & Limborg, H. J. (2006). A review of the literature on preventive occupational health and safety activities in small enterprises. *Industrial Health*, 44(1), 6-12. <https://doi.org/10.2486/indhealth.44.6>
- Hollis, V., Openshaw, S., & Goble, R. (2002). Conducting focus group: Purpose and practicalities. *British Journal of Occupational Therapy*, 65(1), 2-8. <https://doi.org/10.1177/030802260206500102>
- International Labour Organization. (2015). *Global trends on occupational accidents and diseases. World Day for Safety and Health at Work*. [https://www.ilo.org/legacy/english/osh/en/story\\_content/external\\_files/fs\\_st\\_1-ILO\\_5\\_en.pdf](https://www.ilo.org/legacy/english/osh/en/story_content/external_files/fs_st_1-ILO_5_en.pdf)
- Japan Statistics Bureau. (2018). *Labour Force Survey 2018*. Ministry of Internal Affairs and Communication. <http://www.stat.go.jp/english/data/roudou/index.html>
- Kabene, S. M., Orchard, C., Howard, J. M., Soriano, M. A., & Leduc, R. (2006). The importance of human resources management in health care: A global context. *Human Resources for Health*, 4, Article 20. <https://doi.org/10.1186/1478-4491-4-20>
- Kirch, W. (Ed). (2008). *Occupational health physician, encyclopaedia of public health*. Springer. <https://doi.org/10.1007/978-1-4020-5614-7>
- Kwon, S. C., Song, J., Kim, Y., & Calvert, G. M. (2015). Work-related asthma in Korea- findings from Korea work-related asthma surveillance (KOWAS) program, 2004-2009. *Allergy Asthma & Immunol Research*, 7(1), 51-59. <https://doi.org/10.4168/air.2015.7.1.51>
- Lambert, S. D., & Loiselle, C. G. (2008). Combining individual interviews and focus groups to enhance data richness. *Journal of Advanced Nursing*, 62(2), 228-237. <https://doi.org/10.1111/j.1365-2648.2007.04559.x>
- Lenderink, A. F., Spreuwers, D., van der Klink, J. J. L., & van Dijk, F. J. H. (2010). Information and feedback to improve occupational physicians' reporting of occupational diseases: A randomised controlled trial. *International Archive of Occupational & Environmental Health*, 83, 381-388. <https://doi.org/10.1007/s00420-009-0468-8>
- Los, F. S., Hulshof C. T. J., & Sluiter J. K. (2019). The view and policy of management of occupational health services on the performance of workers' health surveillance: A qualitative exploration. *BMC Health Services Research*, 19, Article 473. <https://doi.org/10.1186/s12913-019-4296-6>
- Lucchini, R. G., & London, L. (2014). Global occupational health: Current challenges and the need for urgent action. *Annals of Global Health*, 80(4), 251-256. <https://doi.org/10.1016/j.aogh.2014.09.006>
- Malaysian Factories and Machinery Act 1967 (Act 139).
- Malaysian Occupational Safety and Health Act 1994 (Act 514).
- Martinsson, C., Lohela-Karlsson, M., Kwak, L., Bergstrom, G., & Hellman, T. (2016). What incentives influence employers to engage in workplace health interventions? *BMC Public Health*, 16, Article 854. <https://doi.org/10.1186/s12889-016-3534-7>
- Morgan, D. L. (1988). *Focus group as qualitative research*. Sage.

- Mori, K. (2018). Current status and issues for the role of occupational health physicians in Japan. *Japan Medical Association Journal*, 1(1), 15-21. <https://doi.org/10.31662/jmaj.2018-0011>
- Moriguchi, J., Ikeda, M., Sakuragi, S., Takeda, K., Muto, T., Higashi, T., Weel, A. N. H., & van Dijk, F. J. (2010). Activities of occupational physicians for occupational health services in small-scale enterprises in Japan and in the Netherlands. *International Archive of Occupational & Environmental Health*, 83, 389-398. <https://doi.org/10.1007/s00420-010-0514-6>
- Niskanen, T. (2015). Investigation into qualitative discourses of the occupational safety and health inspectors in order to promote enforcement. *International Journal of Occupational Safety and Ergonomics*, 21(4), 426-439. <https://doi.org/10.1080/10803548.2015.1096062>
- Number of physicians specializing in occupational health in France in 2017. (2018). *Statista*. <https://www.statista.com/statistics/745454/occupational-health-physicians-france-region/>
- Organization for Economic Co-operation Development. (2018). *Labour Force (Indicator)*. <https://data.oecd.org/emp/labour-force.htm#indicator-chart>
- Ramano, E., & Buys, T. (2018). Occupational therapist' views and perceptions of functional capacity evaluations of employees suffering from major depressive disorders. *South African Journal of Occupational Therapy*, 48(1), 9-15. <https://doi.org/10.17159/2310-3833/2017/vol48n1a3>
- Rampal, K. G., & Nizam, J. M. (2006). Developing regulations for occupational exposures to health hazards in Malaysia. *Regulatory Toxicology and Pharmacology* 46(2), 131-135. <https://doi.org/10.1016/j.yrtph.2006.01.013>
- Rantanen, J. (2005). Basic occupational health services. *African Newsletter on Occupational Health and Safety*, 15, 34-37.
- Rantanen, J., Lehtinen, S., & Iavicoli, S. (2013). Occupational health services in selected Internal Commission on Occupational Health (ICOH) members countries. *Scandinavian Journal of Work, Environment & Health*, 39(2), 212-216. <https://doi.org/10.5271/sjweh.3317>
- Rantanen, J., Lehtinen, S., Valenti, A., & Iavicoli, A. (2017). A global survey on occupational health services in selected international commission on occupational health (ICOH) member countries. *BMC Public Health* 17, Article 787. <https://doi.org/10.1186/s12889-017-4800-z>
- Reese, C. D. (2015). *Occupational health and safety management: A practical approach* (3rd ed.). <https://books.google.com.my/books?id=2Oj5CQAAQBAJ&pg=PA139&lpg=PA139&dq=Occupational+physician+inability+to+relate+exposure+with+diseases&source=bl&ots=PBCys1WYPI&sig=ACfU3U2rv6FvaR5evaEpMkgeJwUdogGJWQ&hl=en&sa=X&ved=2ahUKEwjO0Oyou5ThAhXCh3AKHaw3CPAQ6AEwC3oECAkQAQ#v=onepage&q=Occupational%20physician%20inability%20to%20relate%20exposure%20with%20diseases&f=false>
- Rosenman, K. D., Reilly, M. J., & Kalinowski, D. J. (1997). A state-based surveillance system for work-related asthma. *Journal of Occupational Environmental Medicine*, 39(5), 415-425. <https://doi.org/10.1097/00043764-199705000-00007>
- Singh, Z., & Sekhon, P. S. (2018). Need for risk management and regular occupational health safety assessment among workers of developing countries. *Global Journal on Quality and Safety in Healthcare*, 1(1), 19-24. [https://doi.org/10.4103/JQSH.JQSH\\_2\\_17](https://doi.org/10.4103/JQSH.JQSH_2_17)
- Spreeuwens, D., de Boer, A. G. E. M., Verbeek, J. H. A. M., & van Dijk, F. J. H. (2010). Evaluation of occupational disease surveillance in six EU countries. *Occupational Medicine*, 60(7), 509-516. <https://doi.org/10.1093/occmed/kqq133>

- Spreeuwers, D., de Boer, A. G. E. M., Verbeek, J. H. A. M., van Beurden, M. M., & van Dijk, F. J. H. (2008). Diagnosing and reporting of occupational diseases: A quality improvement study. *Occupational Medicine*, 58(2), 11-121. <https://doi.org/10.1093/occmed/kqm146>
- Zhang, J., & Zuo, H. (2012). Occupational health management research on small & medium-sized enterprises together with large & medium-sized state-owned enterprises- A case study in Hubei province. *Procedia Engineering* 43, 288-292. <https://doi.org/10.1016/j.proeng.2012.08.049>
- Tateishi, S., Watase, M., Fujino, Y., & Mori, K. (2016). The opinions of occupational physicians about maintaining healthy workers by means of medical examinations in Japan using Delphi method. *Journal of Occupational Health*, 58(1), 72-80. <https://doi.org/10.1539/joh.15-0188-OA>