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MINISTRY OF HEALTH MALAYSIA
INSTITUTE FOR PUBLIC HEALTH

TECHNICAL REPORT

NCDs INTERVENTION ACTIVITIES BEFORE AND AFTER THE IMPLEMENTATION OF THE KOSPEN PLUS PROGRAMME AT THE WORKPLACE

Institute for Public Health
Ministry of Health Malaysia
2021

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Non-Communicable Diseases (NCDs) intervention activities before and after the implementation of the KOSPEN Plus programme at the workplace

KOMUNITI SIHAT PEMBINA NEGARA
KOSPEN PLUS
"Your Partner Towards a Healthy Workforce"

KOMUNITI SIHAT PEMBINA NEGARA - Plus

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GLOSSARY

NCDs	Non-Communicable Diseases
CDC	Communicable Diseases
KOSPEN	"Komuniti Sihat Pembina Negara" Healthy Community Builds the Nation
KOSPEN Plus	"Komuniti Sihat Pembina Negara-Plus" Healthy Community Builds the Nation - Plus
NHMS	National Health and Morbidity Survey
JKKP	Occupational Safety and Health Committee
CASI	Computer-Assisted Self-Interview
IPH	Institute for Public Health
MREC	Medical and Research Ethics Committee
WHO	World Health Organization
NCDP-1M	NCD Prevention - 1Malaysia
LO	Liaison Officer
CEKAL	Prevention and reduction of the harmful use of alcohol
AUDIT-C	Alcohol Use Disorders Identification Test
BMI	Body Mass Index

EXECUTIVE SUMMARY

Non-Communicable Diseases (NCDs) intervention activities before and after the implementation of KOSPEN Plus programme at the workplace

NMRR ID: NMRR-18-3965-40445

INTRODUCTION

Non-communicable diseases (NCDs) continue to be an important public health problem worldwide, and the burden of NCDs not only affects high-income nations, as approximately 80% of premature NCD deaths occur in low and middle-income countries. In Malaysia, the prevalence of NCDs and NCDs risk factors have risen substantially in the last two decades. In view of the increasing trend of NCDs in Malaysia, the Ministry of Health, Malaysia (MOH) has taken a big step by embarking on a nationwide community-based intervention programme, namely Komuniti Sihat Pembina Negara (KOSPEN) in 2013. Through KOSPEN, a group of volunteers were trained to become health agents of change, or health enablers that introduce and facilitate healthy living practices amongst their respective community members. Overall, the KOSPEN programme was well accepted by implementers, volunteers and the village and housing communities.

Workers spend up to half of their waking hours at work, making the workplace an integral part of the community. Long working hours, overtime, exposure to shift work, high job demands and low job control were all shown to contribute to the development of NCDs among workers. In Malaysia, NCDs were responsible for 67% of premature deaths and over 70% of the disease burden in 2014. Therefore, the widely implemented KOSPEN programme in villages and housing communities has prompted the MOH to use the same concept of training functional units in the workplace to conduct activities and build supportive environments to prevent and reduce the occurrence of NCDs as well as related risk factors. Thus, in 2016, the MOH introduced a new programme known as KOSPEN Plus (Healthy Community Builds the Nation - Plus) to reduce the occurrence of NCDs as well as related risk factors and to increase healthy behaviours of targeted workers at the workplace. This programme consists of eight (8) scopes (six compulsory, two optional) with varying relevant activities. This study aims to assess the implementation level of the KOSPEN Plus programme at workplace after 3 years of its run in MOH health facilities, other government agencies as well as private agencies in Malaysia. In addition, this study also examines the perception of the KOSPEN Plus programme before and after it was implemented in the health facilities, government and private agencies based on the eight (8) identified scopes.

METHODOLOGY

A cross-sectional study design was conducted from January to March 2020. All health facilities, other government and private agencies that had implemented the KOSPEN Plus programme between 1st January 2016 and 31st December 2018 in all 16 states in Malaysia were invited to participate in the study. In each health facility or agency, one of the members of the KOSPEN Plus coordinating committee or Occupational Safety and Health Committee (JKKP) was invited to participate in the study.

A self-administered questionnaire in electronic form was used for data collection. The questionnaire was developed by investigators and has been pre-tested before being administered to the respondents. The questionnaire consists of three modules as follows: i) Information about the respondent and organization. ii) The eight KOSPEN Plus programme scopes and, iii) The KOSPEN Plus programme perception.

A Computer-Assisted Self-Interview (CASI) approach was employed to obtain data. The survey questionnaire was emailed to each respondent's preferred email address. This survey does not require respondent to create new account to complete the questionnaire. Respondent must first read and understand the survey information

and provide informed consent by pressing all of the "AGREE" and "SEND" buttons located in the "RESPONSE AGREEMENT" section in order to start answering the questionnaire. After completing the questionnaire, respondents will be directed to a final button for them to submit the data to the server. Respondents must answer all questions, and in order to reduce the number of unanswered questions, the application system will automatically remind them if any of the related questions are not answered.

Quality control of the survey was done at various stages to ensure the data collected was of high-quality. This study was registered in the National Medical Research Registry, MOH (NMRR-18-3965-40445), and ethical approval was obtained from the Medical and Research Ethics Committee (MREC), Malaysian Ministry of Health. Permission to conduct the study was obtained from all of the health facilities, government and private agencies involved.

The implementation of KOSPEN Plus in the workplace is one of the partnership strategies by MOH and participating agencies to promote healthy living and prevent NCDs among the work force in Malaysia. Workplace wellness programmes such as KOSPEN Plus require active participation by employees and organizational commitment to be sustainable and successful. The data that was received were then verified.

KEY FINDINGS

A total of 362 health facilities, government and private agencies which had implemented KOSPEN Plus programme was involved in this study. Overall, more than 80% of sample in this study implemented six out of the eight scopes of KOSPEN Plus. Majority of the scopes implemented by the facilities/agencies were health screening (95.6%, n = 346), followed by mental health screening (92.0%, n = 333), active life (89.2%, n = 89.2), smoke-free (88.4%, n = 320), healthy eating (82.6%, n = 299) and weight management (82.0%, n = 297). The two optional scopes that showed the lowest implementation by the facilities/agencies were healthy work environment (78.8%, n = 285) and CEKAL (54.7%, n = 198). In terms of the perception of the KOSPEN Plus programme, this study found that there was a generally positive perception toward KOSPEN Plus after the implementation of the programme among the participating facilities/agencies across categories, as evidenced by positive increments in all of the eight scopes.

Among health facilities (n = 275) which had implemented KOSPEN Plus, the majority of facilities implemented health screening (96.7%, n = 266) followed by mental health (94.5%, n = 260), active living (90.2%, n = 248), smoke free (90.2%, n = 248), healthy eating (83.3%, n = 229) and weight management (82.5%, n = 227). Meanwhile, the scopes that were poorly implemented in health facilities were healthy work environment (79.3%, n = 218) followed by CEKAL (53.3%, n = 147). In terms of the perception of the KOSPEN Plus programme, the implementation of Scope 5 – health screening was perceived to be "Good" (65.8%) followed by Scope 6 – mental health (63.6%) and Scope 3 – active living (61.5%) after KOSPEN Plus was introduced. Scope 8 - CEKAL showed improvement in the "Good" category (35.6%) after implementation of KOSPEN Plus, but it is still relatively low as compared to the other seven scopes.

In this study, among government agencies (n = 74) that implemented the KOSPEN Plus programme, mostly had carried out the health screening scope (90.5%, n = 67), followed by active living (86.5%, n = 64), smoke free (85.1%, n = 63), mental health (83.8%, n = 62), healthy eating (83.8%, n = 62) and weight management (81.1%, n = 60). The scopes that were less implemented by agencies and health facilities were similar to those found in healthy work environments (79.7%, n = 59), followed by CEKAL (60.8%, n = 45). Regarding the perception of the KOSPEN Plus programme, the scopes with the "Good" perception were: Health Screening, Healthy Eating and Weight Management with 51.4%, 47.3% and 47.3% respectively. Scope 8 - CEKAL showed improvement in the "Good" category from 20.3% to 36.5% after the implementation of KOSPEN Plus, but it is still remains low as compared to the other seven scopes.

The results revealed that 100% (n = 30) of the private agencies that implemented KOSPEN Plus programme conducted the health screening scope, followed by active living (84.6%, n = 11), mental health (84.6%, n = 11) and weight management (76.9%, n = 10). Meanwhile, scopes that are poorly implemented by private agencies were smoke

free (69.2%, n = 9), followed by a healthy work environment (61.5%, n = 8), healthy eating (61.5%, n = 8) and prevention and reduction of harmful use of alcohol (46.2%, n = 6). In terms of the perception of the KOSPEN Plus programme, private agencies perceived implementation of the health screening and mental health scope as "Good" with 61.5% for both scopes. This was followed by the other three scopes, namely healthy eating (53.8%), active living (53.8%) and healthy work environment (53.8%). Similarly, like the health facilities and government agencies, the CEKAL scope had 30.8% of the agencies perceived that scope to be "Good".

CONCLUSION AND RECOMMENDATION

The KOSPEN Plus programme is a workplace NCD intervention programme carried out by the Ministry of Health, Malaysia on a nationwide scale involving health facilities, government and private agencies since 2016. The KOSPEN Plus programme was well accepted by health facilities, government and private agencies. Therefore, it is not surprising that the health screening scope was the top scope implemented in health facilities, government and private agencies as it was a compulsory scope in conducting the KOSPEN Plus programme. In addition, there was a substantial increment of positive or good perception towards the KOSPEN Plus programme after the implementation of each scope in the facilities or agencies. Thus, the KOSPEN Plus programme should be promoted more aggressively, especially among the government and private agencies. Apart from that, a refresher courses or training should be conducted on a regular basis to update knowledge and correct any misconceptions among all KOSPEN Plus committee members.

1. INTRODUCTION

Worldwide, non-communicable diseases (NCDs) continue to be an important public health problem and have begun to receive promising political and social attention from heads of state and ministries of health [1,2]. The burden of NCDs do not only affects high-income nations, as approximately 80% of premature NCD deaths occur in low- and middle-income countries [3,4]. The affected countries healthcare delivery systems will face enormous pressure to provide quality care to patients with NCDs and their various complications [5]. The shift from MDGs to SDGs acknowledges the interconnectedness between NCDs and global development. The three United Nations General Assembly high-level meetings on non-communicable disease prevention and control in 2011, 2014, and 2018 confirmed the growing prominence of NCDs in the development agenda [6]. In 2011, the United Nation High-Level Meeting on non-communicable diseases (NCDs) urged member of the states to reduce mortality from four major NCDs (cardiovascular diseases, cancers, diabetes, and chronic respiratory diseases) among people aged 30–70 years by 25% between 2010 and 2025 [7].

The shift in burden from communicable diseases (CDCs) to NCDs was caused by changes in the demographic, environmental and the economy of the countries [8]. A few epidemiological studies conducted in various parts of the country at various times have revealed rising trends in NCDs and NCD risk factors [9]. According to the World Health Organization (WHO), more than 36 million people die annually from chronic diseases such as cardiovascular diseases, cancers, chronic respiratory diseases, and diabetes. Furthermore, it is postulated that this mortality impact will increase to 55 million by 2030 [10]. NCDs affect people of all ages and the risk factors are primarily due to modifiable behaviours such as unhealthy diet, inadequate physical activity, tobacco and alcohol use [11]. There is growing evidence of link between lifestyle risk factors and NCDs [5,12], and addressing these lifestyle factors has the potential to reduce the burden of chronic disease on the healthcare system while improving individual quality of life [13].

In Malaysia, the prevalence of NCDs and NCD risk factors have risen substantially in the last two decades [14,15]. NCDs are considered as the leading causes of death and cardiovascular diseases making it responsible for most of the NCD deaths, followed by cancer, respiratory diseases, and diabetes [16]. These four groups of diseases accounted for about 73% of NCD deaths with 35% of them comprising deaths of individuals aged less than 60 years [6,16]. The Malaysian National Health and Morbidity Survey (NHMS) conducted in 2011 [17] and 2015 [16] revealed an increasing trend of NCDs and NCD risk factors in the adult population. An estimated 35% of deaths occurred in individuals aged less than 60 years, which was mainly the working population [17]. Despite all the efforts done by local health authorities towards further improving the health status of the population and expanding the scope of NCDs prevention and control, the prevalence of NCDs and NCD risk factors continues to rise [18,19]. Thus, in order to resolve the increasing trend of NCDs in Malaysia, the Ministry of Health (MOH) has responded by developing and implementing a nation-wide programme known as the NCD Prevention- 1Malaysia (NCDP-1M) in 2010 [14, 20].

In 2013, the MOH has taken a big step by embarking on a nationwide community-based intervention programme, namely Komuniti Sihat Pembina Negara (KOSPEN). This initiative brings the NCD prevention and control programme to the community through trained health volunteers, who will function as health agents of change or health enablers that introduce and facilitate healthy living practices amongst their respective community members [21,22]. Briefly, this programme emphasised a population-based or community-based approach combined with an individually-focused intervention for risk reduction. The principle of community-based action not only targets the community by bringing about behavioural changes; it also includes empowering the community by encouraging them to act as agents of change and prompting them to use their own resources for action. In addition, this broad strategy comprises raising the community's awareness by changing risk perception, providing simple tools, technologies

and lifestyle choices, as well as facilitating the adoption process of appropriate options by the community members [23,24]. Overall, KOSPEN was well accepted by implementers, volunteers and the community even though there were issues with inadequate funding, screening equipment and health education materials [23].

Workers spend up to half of their waking hours at work, making the workplace an integral part of the community [25]. There is evidence that long working hours or overtime, exposure to shift work, high job demands, and low job control all contribute to the development of NCDs among workers [26,27]. Recognising the increasing trend of NCDs and NCD risk factors among workers in Malaysia [28,29], the Ministry of Health (MOH) Malaysia has introduced a new programme to prevent and reduce the occurrence of NCDs as well as related risk factors in the workplace environment known as KOSPEN Plus (Healthy Community Builds the Nation - Plus) in 2016 [30]. KOSPEN Plus is an intervention programme initiative between MOH and other interested agencies such as health facilities and other government and private agencies. This initiative represents a transformation of the public health service in ensuring workers participation in public health programmes. KOSPEN Plus aims to reduce the occurrence of NCDs as well as related risk factors and to increase healthy behaviours including: a) healthy eating, b) smoke free, c) active living, d) weight management, e) health screening, f) mental health, g) healthy work environment and h) prevention and reduction of the harmful use of alcohol (CEKAL) [18].

The programme targets workers and environmental changes to support behavioural modification. The main functioning units for KOSPEN Plus are the coordinating teams which are made up of trained members from each agency. This team acts as a health agent of change towards positive behavioural changes among the workers by adopting and practising healthy lifestyles [18]. The health screening scope is compulsory for the KOSPEN Plus programme. By the end of the year 2019, KOSPEN Plus was implemented in 786 agencies. Of these 786 agencies, 625 agencies were from the public sector and 161 agencies were from the private sector: In the year 2019, a total of 10,773 health screenings were conducted by the 786 agencies that had implemented the KOSPEN Plus programme.

Since the KOSPEN Plus programme was implemented in 2016, no study has been done to evaluate its programme. Evaluation of programmes is an integral part in any programme implementation and will serve as an instrument to know if the intended results are being achieved as planned in a particular programme. Therefore, this study aims to evaluate the awareness and perception of the KOSPEN Plus programme after 3 years of its implementation in MOH health facilities, government and private agencies in Malaysia between 1st January 2016 and 31st December 2018.

2. OBJECTIVE

2.1 GENERAL OBJECTIVE

To assess the level of the implementation of the KOSPEN Plus programme at the workplace after 3 years of its implementation in MOH health facilities, other government agencies and private agencies in Malaysia.

2.2 SPECIFIC OBJECTIVES

To assess,

i. The implementation of health programmes before the introduction of KOSPEN Plus in health facilities, government and private agencies based on eight (8) identified scopes.
ii. The implementation of health programmes after the introduction of KOSPEN Plus in health facilities, government and private agencies based on eight (8) identified scopes.
iii. The perception towards the KOSPEN Plus programme before and after it was implemented in health facilities, government and private agencies based on eight (8) identified scopes.

3. METHODOLOGY

3.1 STUDY DESIGN

A cross-sectional study was conducted from January to March 2020. All health facilities, government and private agencies that had implemented the KOSPEN Plus programme between 2016 and 31st December 2018 in all 16 states in Malaysia were invited to participate in the study. In each state, a Liaison Officer (LO) from the State Health Department was identified to assist the investigators in identifying the study respondents from health facilities, government and private agencies. Then, in each health facility or agency, the LO approached one of the members of the KOSPEN Plus Coordinating Committee or Occupational Safety and Health Committee (JKKP) as a respondent to participate in the study. The identified respondent can be either a chairman or deputy chairman or other committee members who are familiar with the KOSPEN Plus implemented in the organization and have provided informed consent prior to their participation.

3.2 LOCALITY

All health facilities (hospitals, N=132; State Health Department, N=15; District Health Office, N=141; health clinics, N=879), government agencies (N=154) and private agencies (N=69) which have implemented KOSPEN Plus between 2016 and 31st December 2018 in all states in Malaysia will be included in the study.

3.3 STUDY POPULATION

The study encouraged all health facilities, government and private agencies that administered the KOSPEN Plus programme between 2016 and 31st December 2018 in all 16 Malaysian states to participate. A LO from the State Health Department was assigned to each state to assist the investigators in locating study participants from health facilities, government and private agencies.

3.4 INCLUSION AND EXCLUSION

This study excluded all members that are not the Coordinating Committee or JKKP members and those who are unable to provide consent to participate.

3.5 SAMPLING METHOD

Convenience sampling was used in this study as it relies on data gathering from individuals of the population who are readily available to participate in the study. As a response, LO approached one of the members of the KOSPEN Plus Coordinating Committee or the Occupational Safety and Health Committee (JKKP). A chairman or deputy chairman as well as other committee members who are familiar with the KOSPEN Plus implementation in the organization and have given informed consent prior to their participation can be recognised as the respondent.

3.6 QUESTIONNAIRE

A self-administered questionnaire in the electronic form was used for data collection **(Appendix A)**. The questionnaire was developed by investigators and pre-tested before being distributed to the respondents. The questionnaire contained three modules, as follows: (1) Respondent and organization information. This module consists of 6 questions to obtain information on the role of the respondent in the KOSPEN Plus programme, facilities or agency background, and the date the KOSPEN Plus programme implemented. (2) Scope of KOSPEN Plus programme. This module consists of 8 questions on the 8 scopes of the KOSPEN Plus programme:

i. Healthy Eating

a) Healthy food served during meeting:
There are 5 questions whereby each question is a scale based on “Never”, “Sometimes”, and “Always”. This scale is subject to before and after. The questions are described as inquiring whether healthy food and drinks are provided during meetings.

b) Healthy cafeteria:
There are 2 questions whereby each question is a scale based on “Yes”, and “No”. This scale is subject to before and after. The questions ask whether or not there is a cafeteria located at the agency and if it recognised as a certified healthy cafeteria by the Ministry of Health.

ii. Smoke Free

a) Non-smoking practices:
There are 4 questions whereby each question is a scale based on "Yes", and "No". This scale is subject to before and after. The questions ask whether their agency refers employees who smoke to any smoking cessation services, received "Blue Ribbon" recognition, and provides and declares a non-smoking area at the work place.

iii. Active Living

a) Active living:
There are 3 questions whereby each question is a scale based on "Never", "Sometimes", and "Always". This scale is subject to before and after. The questions ask if the agency implements or plans any intellectual activities for employees and promotes the "Let's Use the Stairs" campaign.

b) Active living:
There are 2 questions whereby each question is a scale based on "Yes", and "No". This scale is subject to before and after. The questions inquire whether the agency provides gym facilities, an intellectual corner, and walking tracks.

iv. Weight Management

a) Weight Management:
There are 4 questions whereby each question is a scale based on "Yes", and "No". This scale is subject to before and after. The questions ask about BMI measurement practise and the Weight Management Intervention Programme being conducted on employees.

v. Health Screening

a) There are 4 questions, each with its sub-questions, whereby each question is a scale based on "Yes", and "No". This scale is subject to before and after. The content of the questions can be described as whether the agency conducts regular health screening for all employees.

vi. Mental Health

a) There are 2 questions whereby each question is a scale based on "Never", "Sometimes", and "Always". This scale is subject to before and after. The questions ask regarding the regularity of mental risk assessments on employees and activities conducted to address mental health problems in the work place.

vii. Healthy Work Environment

a) There are 3 questions whereby each question is a scale based on "Never", "Sometimes", and "Always". This scale is subject to before and after. The questions ask about healthcare facilities in the workplace and activities carried out to improve the workplace environment.

viii. Prevention And Reduction of the Harmful Use of Alcohol (CEKAL)

a) There is 1 question with 2 sub-questions whereby each is a scale based on "Never", "Sometimes", and "Always". This scale is subject to before and after. The questions ask whether the agency conduct risk screening on alcohol harm on a regular basis.

And (3) the perception of the KOSPEN Plus programme. The module consists of 8 questions to obtain information on the perception of each KOSPEN Plus scope implemented at the facility or agency. From this point onwards, all facilities or agencies that implemented KOSPEN Plus in this study will be called agencies. A sample of consent form is as attached in **Appendix B**.

3.7 DATA COLLECTION

A Computer-Assisted Self-Interview (CASI) approach was employed to obtain the data. The survey questionnaire was emailed to each respondent's preferred email address. This survey does not require respondent to create new account to complete the questionnaire. Respondent must first read and understand the survey information and provide informed consent by pressing all of the "AGREE" and "SEND" buttons located in the "RESPONSE AGREEMENT" section in order to start answering the questionnaire. The participant information and consent form were designed in both English and Malay versions (details as in **Appendix B and C**). Participation in this survey is voluntary and the survey takes about 20 minutes to answer. The respondent identity was created prior to data collection and the respondents were required to enter their answers depending on the types of responses required in the questionnaire, such as free text, numeric or alphanumeric answers. After respondents complete the questionnaire, a final button will direct the respondents to submit the data to the server. All questions must be answered by the respondents and in order to minimise the number of unanswered questions, the application system will automatically remind the respondents if there were related questions that were not answered.

3.8 QUALITY CONTROL

Quality control of the survey was done at various stages to ensure the data collected was of high-quality. At the central level, the progress of data collection for all agencies was monitored by a dedicated officer from the Institute for Public Health (IPH) on a daily basis. Furthermore, all questionnaires submitted to the IPH went through various checks and were verified by a data verifier to ensure the validity of the answers.

3.9 ETHICAL APPROVAL

This study was registered in the National Medical Research Registry, MOH (NMRR-18-3965-40445), and ethical approval was obtained from the Medical and Research Ethics Committee (MREC), Malaysian Ministry of Health. Permission to conduct the study was obtained from all the health facilities, government and private agencies involved verbally or in a written letter. The research was funded by the Institute for Public Health, National Institutes of Health, Ministry of Health Malaysia. The purpose of the study was explained to the respondents in the electronic consent form and informed consent was obtained from each respondent before the start of the survey. Participation in this survey is entirely voluntary and if they decide to withdraw from the survey at any time, they can exit the site freely. All the data collected will be kept for 3 years in USB flash drive in a secure filing cabinet and handled in accordance with the Ministry of Health data storage regulations and Data Protection Act. This data will be destroyed after 3 years of storage. Should there be any publishing or presentation of the study results, the respondents' identities will not be revealed.

3.10 DATA ANALYSIS

In this study, all data processing activities were centralized at IPH. The collected data in the IPH server was coded. Each dataset was coded accordingly so that no mistakes and irregularities prevailed that might give an incorrect report. In order to ensure the quality of the data, further checking was done by printing out the data to detect any irregularities. SPSS software version 23 (IBM SPSS, Chicago) was used for data analysis. Analysis was done according to the objectives of the study. The implementation of health programmes was measured with the option of "never" or "sometimes" or "always", and "yes" or "no". However, for the current analysis, the answer with the option of "never" or "sometimes" was presented as a single category (never/sometimes). As for "Never" and "Sometimes", both showed considerably low results which reflects that the implementation of the programme is not practiced often by the facilities/agencies. The perception of the eight scopes of KOSPEN Plus activities was measured using a 5-level Likert scale ranging from very poor, poor, moderate and good to very good. However, for the analysis, the option of "very poor" or "poor" will be presented as a single category (poor) and the option of "good" or "very good" will also be presented as a single category (good).

4. RESULT

4.1 IMPLEMENTATION OF THE KOSPEN PLUS (ALL SCOPES)

4.1.1 Overall

A total of 362 health facilities, government and private agencies that had implemented the KOSPEN Plus programme were involved in this study. The majority of them were from health facilities (n = 274) followed by government agencies (n = 74) and Private agencies (n = 13). Overall, more than 80% of the facilities/agencies in this study implemented six out of the eight scopes of KOSPEN Plus. The majority of the scopes implemented by the facilities/agencies was health screening (95.6%, n = 346) followed by mental health (92.0%, n = 333), active living (89.2%, n = 323), smoke-free (88.4%, n = 320), healthy eating (82.6%, n = 299) and weight management (82.0%, n = 297). The two optional scopes that showed to have the lowest implementation by the facilities/agencies were the healthy work environment (78.8%, n = 285) and CEKAL (54.7%, n = 198) scopes **(Table 1).**

4.1.2 Health facilities

Among health facilities (n=275) which had implemented KOSPEN Plus, the majority of these facilities have implemented the health screening (96.7%, n = 266) scope followed by mental health (94.5%, n = 260), active living (90.2%, n = 248), smoke free (90.2%, n = 248), healthy eating (83.3%, n = 229) and weight management (82.5%, n = 227) scopes. Meanwhile, the scopes that were poorly implemented in health facilities were healthy work environment (79.3%, n = 218) followed by the CEKAL (53.3%, n = 147) scope **(Table 1)**.

4.1.3 Government agencies

Among the government agencies that were involved in implementing the KOSPEN Plus programme (n = 74), the most commonly carried out activities were health screening (90.5%, n = 67) followed by active living (86.5%, n = 64), smoke free (85.1%, n = 63), mental health (83.8%, n = 62), healthy eating (83.8%, n = 62) and weight management (81.1%, n = 60). The other two scopes showed a similar trend of implementation with health facilities, with a lower rate of implementation, namely healthy work environment (79.7%, n = 59) followed by the CEKAL (60.8%, n = 45) scope **(Table 1).**

4.1.4 Private agencies

The results revealed that 100% (n = 13) of the private agencies that conducted KOSPEN Plus implemented the health screening scope, and followed by active living (84.6%, n = 11), mental health (84.6%, n = 11), weight management (76.9%, n = 10). Meanwhile, scopes that were poorly implemented were smoke free (69.2%, n = 9) followed by healthy work environment (61.5%, n = 8), healthy eating (61.5%, n = 8) and the CEKAL (46.2%, n = 6) scopes **(Table 1).**

Table 1: Implementation of KOSPEN Plus in Health Facilities, Government and Private Agencies, by scopes

Scope	Frequency (Percentage)							
	Overall (n = 362)		Health facilities (n = 275)		Government agencies (n = 74)		Private agencies (n = 13)	
	Yes	No	Yes	No	Yes	No	Yes	No
1. Healthy eating	299 (82.6)	63 (17.4)	229 (83.3)	10 (16.1)	62 (83.8)	12 (16.2)	8 (61.5)	5 (38.5)
2. Smoke free	320 (88.4)	42 (11.6)	248 (90.2)	27 (9.8)	63 (85.1)	11 (14.9)	9 (69.2)	4 (30.8)
3. Active living	323 (89.2)	39 (10.8)	248 (90.2)	27 (9.8)	64 (86.5)	10 (13.5)	11 (84.6)	2 (15.4)
4. Weight management	297 (82.0)	65 (18.0)	227 (82.5)	48 (17.5)	60 (81.1)	14 (18.9)	10 (76.9)	3 (23.1)
5. Health screening	346 (95.6)	16 (4.4)	266 (96.7)	9 (3.3)	67 (90.5)	7 (9.5)	13 (100)	0 (0)
6. Mental health	333 (92.0)	29 (8.0)	260 (94.5)	15 (5.5)	62 (83.8)	12 (16.2)	11 (84.6)	2 (15.4)
7. Healthy work environment	285 (78.7)	77 (21.3)	218 (79.3)	57 (20.7)	59 (79.7)	15 (20.3)	8 (61.5)	5 (38.5)
8. Prevention and reduction of the harmful use of alcohol	198 (54.7)	164 (45.3)	147 (53.3)	128 (46.5)	45 (60.8)	29 (39.2)	6 (46.2)	7 (53.8)

4.2 HEALTHY EATING (SCOPE 1)

4.2.1 Overall

This scope consisted of five items in the Healthy Meals During Meetings (PHSSM) component. The highest item implemented by the facilities/agencies which was classified as "always" was vegetables at main meal time (74.6%, n = 270) followed by serving plain water (66.0%, n = 239) and serving fruit (57.5%, n = 208). In terms of increment before and after the implementation of KOSPEN Plus programme, the highest increment was observed in serving plain water (17.9%) followed by serving fruit (17.2%) and separating sugar and milk from hot drinks (16.8%). The two components that showed the lowest increment were provided label serving calorie (13.3%) and serving of vegetables at main meal time (8.6%). Regarding to availability of cafeteria, approximately 27% (n = 98) of the facilities/agencies had cafeteria. Among these cafeterias, the percentages of certified healthy cafeteria by Ministry of Health has increased from 13.0% to 16.3% after the KOSPEN Plus programme was implemented **(Table 2)**.

4.2.2 Health facilities

Among the health facilities, the highest activity implemented by the health facilities (classified as "always") was serving vegetables at main meal time (77.5%, n = 213) followed by serving plain water (66.9%, n = 184) and serving fruit (60.7%, n = 167). In terms of increment before and after the implementation of the KOSPEN Plus programme, the highest increment was observed in serving plain water (20.4%) followed by separating sugar and milk from hot drinks (19.6%) and serving fruit (17.1%). The two activities that showed the lowest increment were providing label serving calories (16.4%) and serving of vegetables at main meal time (7.7%) **(Table 2)**.

4.2.3 Government agencies

In terms of the government agencies, the highest activities implemented by the government agencies (classified as "always") were serving vegetables at main meal time (67.6%, n = 50) followed by serving plain water (63.5%, n = 47) and serving fruit (47.3%, n = 35). In terms of increment before and after the implementation of the KOSPEN Plus programme, the highest increment was observed in serving fruit (14.9%) followed by serving plain water (9.4%), separating sugar and milk from hot drinks (8.1%) and serving vegetables (8.1%). The least activity that showed the lowest increment was providing label serving calories (2.7%) **(Table 2)**.

4.2.4 Private agencies

At the private agencies, the highest activities implemented by the private agencies (classified as "always") were serving plain water (61.5%, n = 8) followed by serving vegetables at main meal time (53.8%, n = 7), and serving fruit (46.2%, n = 6). In terms of increment before and after the implementation of the KOSPEN Plus programme, the highest increment was observed in serving fruit (30.8%) followed by serving vegetables (30.7%) and serving plain water (15.3). The two activities that showed the lowest increment were providing label serving calories (7.7%) and separating sugar and milk from hot drinks (7.7%) **(Table 2)**.

4.2.5 Before and after KOSPEN Plus

Before the implementation of KOSPEN Plus, agencies were already practising the Healthy Meals During Meetings (PHSSM) components. 33 (9.1%) of the agencies were already practising the labelling of the calorie contents of meals served during meetings, and as many as 239 (66.0%) agencies have already served vegetables with their main meals during meetings. Before implementing KOSPEN Plus at their workplaces, 47 (13.0%) of the agencies have received a Healthy Cafeteria certification from the MOH of Malaysia. After the implementation of KOSPEN Plus, there was an increase of between 8.6% and 17.1% of the components of PHSSM and the addition of 12 new certifications of Healthy Cafeterias **(Table 2a)**.

Table 2: Healthy eating practices: Healthy Meals During Meetings (PHSSM) and Healthy Cafeteria (Scope 1)

2.1a. Healthy Meals During Meetings (PHSSM)	Frequency (Percentage)							
	Overall		Health facilities		Government agencies		Private agencies	
	Never/ Sometimes	Always	Never/ Sometimes	Always	Never/ Sometimes	Always	Never/ Sometimes	Always
2.1a. Is the serving **calorie label** provided during the meeting?								
i. Before	329 (90.9)	33 (9.1)	250 (90.9)	25 (9.1)	67 (90.5)	7 (9.5)	12 (92.3)	1 (7.7)
ii. After	281 (77.6)	81 (22.4)	205 (74.5)	70 (25.5)	65 (87.8)	9 (12.2)	11 (84.6)	2 (15.4)
2.1b. Is **plain water** provided during the meeting?								
i. Before	188 (51.9)	174 (48.1)	147 (53.5)	128 (46.5)	34 (45.9)	40 (54.1)	7 (53.8)	6 (46.2)
ii. After	123 (34.0)	239 (66.0)	91 (33.1)	184 (66.9)	27 (36.5)	47 (63.5)	5 (38.5)	8 (61.5)
2.1c. Are **sugar and milk separated** from hot drinks during meetings?								
i. Before	294 (81.2)	68 (18.8)	220 (80.0)	55 (20.0)	64 (86.5)	10 (13.5)	10 (76.9)	3 (23.1)
ii. After	233 (64.4)	129 (35.6)	166 (60.4)	109 (39.6)	58 (78.4)	16 (21.6)	9 (69.2)	4 (30.8)
2.1d. Are **fruits served** during the meeting?	216 (59.7)	146 (40.3)	155 (56.4)	120 (43.6)	50 (67.6)	24 (32.4)	11 (84.6)	2 (15.4)
i. Before	154 (42.5)	208 (57.5)	108 (39.3)	167 (60.7)	39 (52.7)	35 (47.3)	7 (53.8)	6 (46.2)
ii. After								
2.1e. Are **vegetables served** during the meeting (main meal time)?								
i. Before	123 (34.0)	239 (66.0)	83 (30.2)	192 (69.8)	30 (40.5)	44 (59.5)	10 (76.9)	3 (23.1)
ii. After	92 (25.4)	270 (74.6)	62 (22.5)	213 (77.5)	24 (32.4)	50 (67.6)	6 (46.2)	7 (53.8)

2.1b. Healthy Cafeteria	Frequency (Percentage)							
	Overall		Health facilities		Government agencies		Private agencies	
	Yes	No	Yes	No	Yes	No	Yes	No
2.1a. Does your agency have a cafeteria?								
i. Before	95 (26.2)	267 (73.8)	72 (26.2)	203 (73.8)	20 (27.0)	54 (73.0)	3 (23.1)	10 (76.9)
ii. After	98 (27.1)	264 (72.9)	74 (26.9)	201 (73.1)	21 (28.4)	53 (71.6)	3 (23.1)	10 (76.9)
2.1b. Is the cafeteria in your agency recognized as a healthy cafeteria by MOH (Certified)								
i. Before	47 (13.0)	315 (87.0)	35 (12.7)	240 (87.3)	12 (16.2)	62 (83.8)	0 (0)	13 (100.0)
ii. After	59 (16.3)	303 (83.7)	45 (16.4)	230 (83.6)	14 (18.9)	60 (81.1)	0 (0)	13 (100.0)

Table 2a: Healthy eating practices: Healthy Meals During Meetings (PHSSM) and Healthy Cafeteria components before and after KOSPEN Plus

Components	Before n (%)	After n (%)	Difference	
			n	%
PHSSM				
Always provide calorie label	33 (9.1)	81 (22.4)	48	13.3
Always provide plain water	174 (48.1)	239 (66.0)	65	18.0
Always separate sugar and milk from hot drinks	68 (18.8)	129 (35.6)	61	16.9
Always serve fruits	146 (40.3)	208 (57.5)	62	17.1
Always serve vegetables during main meals	239 (66.0)	270 (74.6)	31	8.6
Healthy Cafeteria				
Does have a cafeteria at the agency	95 (26.2)	98 (27.1)	3	0.8
Cafeteria in the agency certified as a Healthy Cafeteria	47 (13.0)	59 (16.3)	12	3.3

The percentage of the components was relatively high, with a significant increase in the changes of each component from 2016 until the end of 2018, after 3 years of implementation of the KOSPEN Plus programme. The component “Always provide calorie label” shows a difference of 48 (13.3%), an increase from 33 (9.1%) to 81 (22.4%). “Always provide plain water” went from 174 (48.1%) to 239 (66.0%), resulting in an increase of 65 (18.0%). “Always separate sugar and milk from hot drinks” before was 68 (18.8%) and after was 129 (35.6%), an increase of 61 (16.9%). “Always serving fruit” shows a 62 (17.1%) increase, an increase from before 146 (40.3%) to after 208 (74.6%). For the component “Always serve vegetables during main meals”, the before was 239 (66.0%) and after 270 (74.6%), an increase of 31(8.6%). The component “Does have a cafeteria at the agency” shows a result of only 3 (0.8%) increase after 3 years of implementation. Before percentage was 95 (26.2%) and after 98 (27.1%). Lastly, the before percentage for “Cafeteria in the agency certified as a Health Cafeteria” was 47 (13.0%) and after 59 (16.3%).

4.3 SMOKE-FREE (SCOPE 2)

4.3.1 Overall

This scope consisted of four items and the highest item implemented by the facilities/agencies was the declaration of the workplace as a non-smoking place (88.4%, n = 320) and referring smoking employees to a smoking cessation service (77.1%, n = 279). In terms of increment before and after the implementation of the KOSPEN Plus programme, the highest increment was observed in the referring of smoking employees to a smoking cessation service (20.5%), followed by providing a smoking area to employees (5.2%) and getting "blue ribbon" recognition from the Ministry of Health (4.4%). However, there was no increment observed in the declaration of the workplace as a non-smoking place **(Table 3)**.

4.3.2 Health facilities

Among the health facilities, the highest activities implemented were the declaration of the workplace as a non-smoking place (87.6%, n = 241) and referring smoking employees to a smoking cessation service (84.4%, n = 232). There were 28 (10.2%) of the health facilities that still did not declare their workplaces as smoke-free. In terms of increment before and after the implementation of the KOSPEN Plus programme, the highest increment was observed in the referring of smoking employees to a smoking cessation service (21.9%), followed by getting "blue ribbon" recognition from the Ministry of Health (6.2%) and providing a smoking area to employees (3.3%). However, there was a decreasing trend observed in the declaration of the workplace as a non-smoking place **(Table 3)**.

4.3.3 Government agencies

The most common items implemented by government agencies were declaring the workplace a non-smoking zone (94.6%, n = 70) and referring smoking employees to a smoking cessation service (60.8%, n = 45). There are still 10 (13.5%) government agencies that implemented KOSPEN Plus programme that have not yet declared their workplaces smoke-free **(Table 3)**.

4.3.4 Private agencies

At the private agencies, the highest item implemented was the declaration of the workplace as a non-smoking place (69.2%, n = 9). In terms of increment before and after the implementation of the KOSPEN Plus programme, the highest increment was observed in getting "blue ribbon" recognition from the Ministry of Health (15.4%). However, there was no increment observed in other activities **(Table 3)**.

4.3.5. Before and after KOSPEN Plus

Before starting KOSPEN Plus, 205 (56.6%) of the agencies were already referring their smokers to smoking cessation clinics. After the implementation of KOSPEN Plus, an additional 74 (20.5%) of agencies referred their smoking workers to smoking cessation clinics. No additional agencies declared their workplaces smoke-free after the implementation of the KOSPEN Plus. In terms of increment before and after the implementation of KOSPEN Plus programme for this scope, the highest increment was observed in the referral of smoking employees to a smoking cessation service at 74 (20.5%). There were an additional 16 (4.4%) agencies that received the 'Blue Ribbon' certification after the implementation of KOSPEN Plus **(Table 3a)**.

Table 3: Smoking-free: (Scope 2)

3. Smoking Practice	Frequency (Percentage)							
	Overall		Health facilities		Government agencies		Private agencies	
	Yes	No	Yes	No	Yes	No	Yes	No
3a. Does your agency refer smoking employees to a smoking cessation service?								
i. Before	205 (56.6)	157 (43.4)	172 (62.5)	103 (37.5)	31 (41.9)	43 (58.1)	2 (15.4)	11 (84.6)
ii. After	279 (77.1)	83 (22.9)	232 (84.4)	43 (15.6)	45 (60.8)	29 (39.2)	2 (15.4)	11 (84.6)
3b. Does your agency get "Blue Ribbon" recognition?								
i. Before	39 (10.8)	323 (89.2)	24 (8.7)	251 (91.3)	14 (18.9)	60 (81.1)	1 (7.7)	12 (92.3)
ii. After	55 (15.2)	307 (84.8)	41 (14.9)	234 (85.1)	11 (14.9)	63 (85.1)	3 (23.1)	10 (76.9)
3c. Does the management at your agency declare the workplace a non-smoking place?								
i. Before	320 (88.4)	42 (11.6)	247 (89.8)	28 (10.2)	64 (86.5)	10 (13.5)	9 (69.2)	4 (30.8)
ii. After	320 (88.4)	42 (11.6)	241 (87.6)	34 (12.4)	70 (94.6)	4 (5.4)	9 (69.2)	4 (30.8)
3d. Is a smoking area available to employees who smoke?								
i. Before	39 (10.8)	323 (89.2)	8 (2.9)	267 (97.1)	27 (36.5)	47 (63.5)	4 (30.8)	9 (69.2)
ii. After	58 (16.0)	304 (84.0)	17 (6.2)	258 (93.8)	37 (50.0)	37 (50.0)	4 (30.8)	9 (69.2)

Table 3a: Smoke-free practices before and after KOSPEN Plus

Components	Before n (%)	After n (%)	Difference	
			n	%
Referral of smoking employees to a smoking cessation service	205 (56.6)	279 (77.1)	74	20.4
Get "Blue Ribbon" recognition	39 (10.8)	55 (15.2)	16	4.4
Declaration of the workplace as a non-smoking place	320 (88.4)	320 (88.4)	0	0
Designated smoking area for employees who smoke	39 (10.8)	58 (16.0)	19	5.2

4.4 ACTIVE LIVING (SCOPE 3)

4.4.1 Overall

This active lifestyle scope consisted of five items. The highest item implemented by the facilities/agencies which was classified as "always" was scheduling fitness activities in the facilities/agencies (46.1%, n = 167), followed by promoting using stairs (33.7%, n = 122) and providing walking trails (28.7%, n = 104). In terms of increment before and after the implementation of the KOSPEN Plus programme, the highest increment was observed in conducting scheduled fitness activities (27.9%) followed by carrying out fitness activities for the employees (18.2%) and promoting using stairs (16%). The two components that showed the lowest increment were providing walking trails (5.5%) and providing gym facilities or fitness corners to the employees (5%) **(Table 4)**.

4.4.2 Health facilities

Among the health facilities, the highest items implemented were conducted scheduled fitness activities (51.3%, n = 141) and promoting using stairs (33.8%, n = 93). In terms of increment before and after the implementation of the KOSPEN Plus programme, the highest increment was conducting scheduled fitness activities (30.9%), followed by carrying out fitness activities (20.7%) and promoting using stairs to employees (16.3%). However, there is a low increment trend observed in providing gym facilities or fitness corners and also providing walking trails **(Table 4)**.

4.4.3 Government agencies

In terms of the government agencies, the most implemented items were promoting using stairs (33.8%, n = 25) and providing walking trails (32.4%, n = 24). In terms of increment before and after the implementation of the KOSPEN Plus programme, the highest increment was observed in conducting scheduled fitness activities and promoting the use of stairs by the employees (13.5%), followed by providing walking trails (10.8%) carrying out fitness activities (8.1%) and providing gym facilities or fitness corner (8.1%) **(Table 4)**.

4.4.4 Private agencies

The most common item implemented in private agencies was scheduled fitness activities (46.2%, n = 6). The highest increment was achieved during scheduled fitness activities before and after the implementation of the KOSPEN Plus programme (46.2%). However, no increase in other items has been observed **(Table 4)**.

4.4.5 Before and after KOSPEN Plus

Prior to starting the KOSPEN Plus, less than 25% of the agencies practiced any of the Active Living components. The number of agencies implementing each component of Active Living increased by 5% to 27.9% **(Table 4a)**.

Table 4: Active Living in Health Facilities, Government Agencies and Private Agencies (Scope 3)

Active Lifestyle	Frequency (Percentage)							
	Overall		Health facilities		Government agencies		Private agencies	
	Never/ Sometimes	Always	Never/ Sometimes	Always	Never/ Sometimes	Always	Never/ Sometimes	Always
3a. Does your agency carry out fitness activities to employees?								
i. Before	329 (90.9)	33 (9.1)	253 (92.0)	22 (8.0)	63 (85.1)	11 (14.9)	13 (100.0)	0 (0.0)
ii. After	263 (72.7)	99 (27.3)	196 (71.3)	79 (28.7)	57 (77.0)	17 (23.0)	10 (76.9)	3 (23.1)
3b. Are scheduled fitness activities sessions conducted at your agency?								
i. Before	296 (81.8)	66 (18.2)	219 (79.6)	56 (20.4)	64 (86.5)	10 (13.5)	13 (100.0)	0 (0.0)
ii. After	195 (53.9)	167 (46.1)	134 (48.7)	141 (51.3)	54 (73.0)	20 (27.0)	7 (53.8)	6 (46.2)
3c. Does your agency promote “Let’s Use Stairs”?								
i. Before	298 (82.3)	64 (17.7)	227 (82.5)	48 (17.5)	59 (79.7)	15 (20.3)	12 (92.3)	1 (7.7)
ii. After	240 (66.3)	122 (33.7)	182 (66.2)	93 (33.8)	49 (66.2)	25 (33.8)	9 (69.2)	4 (30.8)

Active Lifestyle	Frequency (Percentage)							
	Overall		Health facilities		Government agencies		Private agencies	
	Yes	No	Yes	No	Yes	No	Yes	No
3d. Does your agency provide Gym facilities or fitness corners to employees?								
i. Before	78 (21.5)	284 (78.5)	62 (22.5)	213 (77.5)	12 (16.2)	62 (83.8)	4 (30.8)	9 (69.2)
ii. After	96 (26.5)	266 (73.5)	74 (26.9)	201 (73.1)	18 (24.3)	56 (75.7)	4 (30.8)	9 (69.2)
3e. Does your agency provide walking trails?								
i. Before	84 (23.2)	278 (76.8)	64 (23.3)	211 (76.7)	16 (21.6)	58 (78.4)	4 (30.8)	9 (69.2)
ii. After	104 (28.7)	258 (71.3)	76 (27.6)	199 (72.4)	24 (32.4)	50 (67.6)	4 (30.8)	9 (69.2)

Table 4a Difference of Active Living practices before and after KOSPEN Plus

Components	Before n (%)	After n (%)	Difference	
			n	%
Carry out fitness activities to employees	33 (9.1)	99 (27.3)	66	18.2
Scheduled fitness activities sessions conducted at your agency	66 (18.2)	167 (46.1)	101	27.9
Promote “Let’s Use Stairs”	64 (17.7)	122 (33.7)	58	16.0
Provide Gym facilities or fitness corners to employees	78 (21.5)	96 (26.5)	18	5.0
Agency provide walking trails	84 (23.2)	104 (28.7)	20	5.5

The percentage of the difference of active living components was relatively high, mostly showing a significant increase in change after 3 years of implementation of the KOSPEN Plus programme. Component “Carry out fitness activities for employees” had an increase of 66 (18.2%), from before 33 (9.1%) to after 99 (27.3%). “Scheduled fitness activities sessions conducted at your agency” marks a high increase in change after implementation, from before 66 (18.2%) to after 167 (46.1%), a result of 101 (27.9%). For the component “Promote ‘Let’s Us Stairs” shows an increase of 58 (16.0%), from before 64 (17.7%) to after 122 (33.7%). Previously, “Provide gym facilities or fitness corners to employees” was 78 (21.5%).

4.5 WEIGHT MANAGEMENT (TRIM & FIT) (SCOPE 4)

4.5.1. Overall

This scope consisted of two items and the highest item implemented by the facilities/agencies was the regular measurement of body mass index (BMI) for all employees (80.9%, n = 293). In terms of increment before and after the implementation of the KOSPEN Plus programme, the highest increment was observed in the facilities/agencies having a Weight Management Intervention Programme conducted for employees with a BMI of ≥ 25 kg/m^2 (27.8%) **(Table 5)**.

4.5.2. Health facilities

Among the health facilities, the most implemented item was regular measurement of BMI for all employees (83.3%, n = 229). In terms of increment before and after the implementation of the KOSPEN Plus programme, the highest increment was Weight Management Intervention Programme conducted for employees with a BMI of ≥ 25 kg/m^2 (28.4%) **(Table 5)**.

4.5.3. Government agencies

In terms of the government agencies, the most implemented item was the regular measurement of BMI for all employees (74.3%, n = 55). In terms of increment before and after the implementation of the KOSPEN Plus programme, the highest increment was regular measurement of BMI for all employees (28.4%), followed by having a Weight Management Intervention Programme conducted for employees with a BMI of ≥ 25 kg/m^2 (27.1%) **(Table 5)**.

4.5.4. Private agencies

Regarding the private agencies, the most implemented item was regular measurement of BMI for all employees (69.2%, n = 9). In terms of increment before and after the implementation of the KOSPEN Plus programme, the highest increment was having a Weight Management Intervention Programme conducted for employees with a BMI of ≥ 25 kg/m^2 (23.1%) **(Table 5)**.

4.5.5. Before and after KOSPEN Plus

More than half of the agencies in this study, or 203 (56.1%) agencies have already taken BMI measurements of their employees regularly. After the KOSPEN Plus, there was an increment of 90 (24.9%) agencies that started to take BMI measurements of their employees regularly. 155 (42.8%) agencies already had a weight management intervention programme before implementing KOSPEN Plus. This number has increased from 101 (28.0%) after the implementation of KOSPEN Plus to 256 (70.7%) **(Table 5a)**.

Table 5: Weight Management (TRIM & FIT) in Health Facilities, Government Agencies and Private Agencies (Scope 4)

Weight Management (TRIM & FIT)	Frequency (Percentage)							
	Overall		Health facilities		Government agencies		Private agencies	
	Yes	No	Yes	No	Yes	No	Yes	No
4a. Does your agency make regular BMI measurements for all employees?								
i. Before	203 (56.1)	159 (43.9)	162 (58.9)	113 (41.1)	34 (45.9)	40 (54.1)	7 (53.8)	6 (46.2)
ii. After	293 (80.9)	69 (19.1)	229 (83.3)	46 (16.7)	55 (74.3)	19 (25.7)	9 (69.2)	4 (30.8)
4b. Does your agency have a Weight Management Intervention Programme conducted for employees with a BMI ≥ 25 kg / m^2?								
i. Before	155 (42.8)	207 (57.2)	135 (49.1)	140 (50.9)	18 (24.3)	56 (75.7)	2 (15.4)	11 (84.6)
ii. After	256 (70.7)	106 (29.3)	213 (77.5)	62 (22.5)	38 (51.4)	36 (48.6)	5 (38.5)	8 (61.5)

Table 5a Difference of Weight Management practices before and after KOSPEN Plus

Components	Before n (%)	After n (%)	Difference	
			n	%
Agency make regular BMI measurements for all employees	203 (56.1)	293 (80.9)	90	24.9
Agency have a Weight Management Intervention Programme conducted for employees with a BMI ≥ 25 kg / m^2	155 (42.8)	256 (70.7)	101	28.0

4.6 HEALTH SCREENING (SCOPE 5)

4.6.1. Overall

Health screening scope consists of four components, namely "regular health screening for all employees", "health screening for BMI, waist circumference, blood glucose levels, blood pressure and AUDIT-C", "availability of self-check for BMI and blood pressure", and "availability of health screening equipment at facilities". Regular health screening for all employees (89.5%, n = 324) was among the most implemented items by the facilities/agencies. Among the health screening activities, the highest items were observed for BMI (88.4%, n = 320) and Blood Pressure screening (88.4%, n = 320), while alcohol screening using Audit-C was the least (45.3%, n = 164). In terms of screening tools available at the facilities/agencies, the highest item was observed in the digital BP measurement set (80.1%, n = 290) and the lowest was Audit-C (45.6%, n = 165). Regarding the increment before and after the implementation of KOSPEN Plus programme, the highest increment was observed in screening carried out on employees for measurement of Waist Circumference (30.1%), followed by measurements for blood pressure (23.5%) and BMI (23.2%) **(Table 6)**.

4.6.2 Health facilities

Among the health facilities, the highest item implemented was the regular health screening for all employees (93.8%, n = 258) and the lowest was observed for Audit-C screening. In terms of increment before and after the implementation of the KOSPEN Plus programme, the highest increment was observed under components for screening carried out on employees, such as waist circumference (32%), Audit-C (24.3%), BMI (21.5%), blood glucose levels (21.1%) and blood pressure (20.4%) **(Table 6)**.

4.6.3 Government agencies

Most government agencies conducted a regular health screening for all employees (73%, n = 54) and of all the items, blood pressure screening was the most common (70.3%, n = 54) followed by BMI measurements (68.9%, n = 51). In terms of increment before and after the implementation of KOSPEN Plus programme, the highest increment was observed in item for regular health screening for all employees (31.1%). Blood pressure screening (31.1%) and BMI measurements (27%) were among the most common activities conducted by the government agencies. Regarding the availability of health screening tools at the workplace, the increment was observed for items such as stadio-meter and weighing machines (24.3%), followed by the waist measuring tape (20.2%) **(Table 6)**.

4.6.4 Private agencies

The highest items implemented by the private agencies were the regular health screening for all employees (92.3%, n = 12), BMI screening (92.3%, n = 12) and blood pressure measurement (84.6%, n = 11). In terms of the increment before and after the implementation of the KOSPEN Plus programme, the highest increment was observed in item screening for blood pressure for employees (46.1%), followed by the availability of self-check for BMI screening and blood pressure at the agency (46.1%,) **(Table 6)**.

4.6.5 Before and after KOSPEN Plus

About 67% agencies already performing regular health screening even before implementing KOSPEN Plus. There was an increment of self-check for BMI screening and blood pressure available to 81 (22.4%) agencies that additionally performed regular health screening for their employees after the implementation of KOSPEN Plus. More than 40% of the agencies were already screening for BMI, waist circumference, blood glucose level, and blood pressure before KOSPEN Plus. Self-check for BMI screening and blood pressure were already available in 179 (49.4%) of the agencies before KOSPEN Plus. After KOSPEN Plus, an additional 69 (19.1%) agencies made self-check facilities for BMI screening and blood pressure checks available for their employees. More than 60% (63.0%-70.4%) of the agencies already owned Gluco-strip and a glucometer, digital blood pressure measurement set, a stadio-meter and weighing machine and waist measuring tape even before implementing KOSPEN Plus programme. After implementing KOSPEN Plus, there was an increment of 9.4%-13.8% of agencies owning health screening tools. **(Table 6a)**.

Table 6: Health Screening (Scope 5)

Health Screening	Frequency (Percentage)							
	Overall		Health facilities		Government agencies		Private agencies	
	Yes	No	Yes	No	Yes	No	Yes	No
5a. Does your agency make regular Health Screening for all employees?								
i. Before	243 (67.1)	119 (32.9)	205 (74.5)	70 (25.5)	31 (41.9)	43 (58.1)	7 (53.8)	6 (46.2)
ii. After	324 (89.5)	38 (10.5)	258 (93.8)	17 (6.2)	54 (73.0)	20 (27.0)	12 (92.3)	1 (7.7)
5b. Is the screening below carried out on employees?								
1. BMI								
i. Before	236 (65.2)	126 (34.8)	198 (72.0)	77 (28.0)	31 (41.9)	43 (58.1)	7 (53.8)	6 (46.2)
ii. After	320 (88.4)	42 (11.6)	257 (93.5)	18 (6.5)	51 (68.9)	23 (31.1)	12 (92.3)	1 (7.7)
2. Measure Waist Circumference								
i. Before	173 (47.8)	189 (52.2)	147 (53.5)	128 (46.5)	22 (29.7)	52 (70.3)	4 (30.8)	9 (69.2)
ii. After	282 (77.9)	80 (22.1)	235 (85.5)	40 (14.5)	38 (51.4)	36 (48.6)	9 (69.2)	4 (30.8)
3. Blood Glucose Levels								
i. Before	226 (62.4)	136 (37.6)	195 (70.9)	80 (29.1)	26 (35.1)	48 (64.9)	5 (38.5)	8 (61.5)
ii. After	305 (84.3)	57 (15.7)	253 (92.0)	22 (8.0)	42 (56.8)	32 (43.2)	10 (76.9)	3 (23.1)
4. Blood pressure								
i. Before	235 (64.9)	127 (35.1)	201 (73.1)	74 (26.9)	29 (39.2)	45 (60.8)	5 (38.5)	8 (61.5)
ii. After	320 (88.4)	42 (11.6)	257 (93.5)	18 (6.5)	52 (70.3)	22 (29.7)	11 (84.6)	2 (15.4)
5. AUDIT-C								
i. Before	85 (23.5)	277 (76.5)	72 (26.2)	203 (73.8)	11 (14.9)	63 (85.1)	2 (15.4)	11 (84.6)
ii. After	164 (45.3)	198 (54.7)	139 (50.5)	136 (49.5)	20 (27.0)	54 (73.0)	5 (38.5)	8 (61.5)

Weight Management (TRIM & FIT)	Frequency (Percentage)							
	Overall		Health facilities		Government agencies		Private agencies	
	Yes	No	Yes	No	Yes	No	Yes	No
5c. Is a self-check for BMI Screening and Blood Pressure available at your agency?								
i. Before	179 (49.4)	183 (50.6)	158 (57.5)	117 (42.5)	19 (25.7)	55 (74.3)	2 (15.4)	11 (84.6)
ii. After	248 (68.5)	114 (31.5)	204 (74.2)	71 (25.8)	36 (48.6)	38 (51.4)	8 (61.5)	5 (38.5)
5d. Does your agency have the following health screening tools:								
1. Glucostrip and Glucometer								
i. Before	245 (67.7)	117 (32.3)	223 (81.1)	52 (18.9)	18 (24.3)	56 (75.7)	4 (30.8)	9 (69.2)
ii. After	279 (77.1)	83 (22.9)	241 (87.6)	34 (12.4)	30 (40.5)	44 (59.5)	8 (61.5)	5 (38.5)
2. Digital BP measurement set								9 (69.2)
i. Before	255 (70.4)	107 (29.6)	230 (83.6)	45 (16.4)	21 (28.4)	53 (71.6)	4 (30.8)	4 (30.8)
ii. After	290 (80.1)	72 (19.9)	247 (89.8)	28 (10.2)	34 (45.9)	40 (54.1)	9 (69.2)	
3. Stadio-meter and weighing machine								
i. Before	232 (64.1)	130 (35.9)	211 (76.7)	64 (23.3)	16 (21.6)	58 (78.4)	5 (38.5)	8 (61.5)
ii. After	275 (76.0)	87 (24.0)	231 (84.0)	44 (16.0)	34 (45.9)	40 (54.1)	10 (76.9)	3 (23.1)
4. The waist measuring tape								
i. Before	226 (62.4)	136 (37.6)	210 (76.4)	65 (23.6)	15 (20.3)	59 (79.7)	1 (7.7)	12 (92.3)
ii. After	277 (76.5)	85 (23.5)	240 (87.3)	35 (12.7)	30 (40.5)	44 (59.5)	7 (53.8)	6 (46.2)
5. DASS -21								
i. Before	228 (63.0)	134 (37.0)	212 (77.1)	63 (22.9)	12 (16.2)	62 (83.8)	4 (30.8)	9 (69.2)
ii. After	278 (76.8)	84 (23.2)	246 (89.5)	29 (10.5)	25 (33.8)	49 (66.2)	7 (53.8)	6 (46.2)
6. Audit C								
i. Before	117 (32.3)	245 (67.7)	105 (38.2)	170 (61.8)	11 (14.9)	63 (85.1)	1 (7.7)	12 (92.3)
ii. After	165 (45.6)	197 (54.4)	146 (53.1)	129 (46.9)	16 (21.6)	58 (78.4)	3 (23.1)	10 (76.9)

Table 6a Difference of Health Screening practices before and after KOSPEN Plus

Components	Before n (%)	After n (%)	Difference	
			n	%
Agency make regular health screening for all employees	243 (67.1)	324 (89.5)	81	22.4
Screening below carried out on employees:				
BMI	236 (65.2)	320 (88.4)	84	23.2
Measure Waist Circumference	173 (47.8)	282 (77.9)	109	30.1
Blood Glucose Levels	226 (62.4)	305 (84.3)	79	21.8
Blood pressure	235 (64.9)	320 (88.4)	85	23.5
AUDIT-C	85 (23.5)	164 (45.3)	79	21.8
Self-check for BMI screening and blood pressure available	179 (49.4)	248 (68.5)	69	19.1
Agency have the following health screening tools:				
Glucostrip and glucometer	245 (67.7)	279 (77.1)	34	9.4
Digital BP measurement set	255 (70.4)	290 (80.1)	35	9.7
Stadio-meter and weighing machine	232 (64.1)	275 (76.0)	43	11.9
The waist measuring tape	228 (63.0)	278 (76.8)	50	13.8
DASS -21	228 (63.0)	278 (76.8)	50	13.8
Audit C	117 (32.3)	165 (45.6)	48	13.3

4.7 MENTAL HEALTH (SCOPE 6)

4.7.1 Overall

This scope consisted of two items, and the most implemented by the facilities/agencies was the activities to address mental health problems in the workplace (47%, n = 170). In terms of the increment before and after the implementation of the KOSPEN Plus programme, about a 34% increment was observed in activities carried out at the workplace to address mental health problems **(Table 7)**.

4.7.2 Health facilities

Among the health facilities, a total of 160 (58.2%) health facilities had conducted the activities to address mental health problems in the workplace and the increment between before and after the implementation of the KOSPEN Plus programme was 42% (n = 117) **(Table 7)**.

4.7.3 Government agencies

In terms of government agencies, only 3 (4.1%) agencies conducted the regular mental risk assessments on employees and there was an increased from two to three agencies after the implementation of the KOSPEN Plus programme. In terms of activities being carried out to address mental health problems in the workplace, the number of agencies had increased from 4.1% (n = 3) to 10.8% (n = 8) **(Table 7)**.

4.7.4 Private agencies

Among the private agencies, only one agency (7.7%) conducted regular mental risk assessments on employees. In terms of activities carried out to address mental health problems in the workplace, there was an increment from one (7.7%) to two (15.4%) after the KOSPEN Plus programme was implemented **(Table 7)**.

4.7.5 Before and after KOSPEN Plus

There was a reduction of 7 agencies (1.9%) that conducted the DASS-21 screening after the implementation of KOSPEN Plus. There was a big increase in agencies conducting activities to address mental health problems in the workplace, up to 123 agencies (34.0%) **(Table 7a)**.

Table 7: Mental Health (Scope 6)

Healthy Mind	Frequency (Percentage)							
	Overall		Health facilities		Government agencies		Private agencies	
	Never/ Sometimes	Always	Never/ Sometimes	Always	Never/ Sometimes	Always	Never/ Sometimes	Always
6a. Does your agency conduct regular mental risk assessments on employees? (DASS 21)								
i. Before	308 (85.1)	54 (14.9)	224 (81.5)	51 (18.5)	72 (97.3)	2 (2.7)	12 (92.3)	1 (7.7)
ii. After	315 (87.0)	47 (13.0)	232 (84.4)	43 (15.6)	71 (95.9)	3 (4.1)	12 (92.3)	1 (7.7)
6b. Are activities to address mental health problems in the workplace carried out? (e.g. psychosocial therapy, relaxation methods)								
i. Before	315 (87.0)	47 (13.0)	232 (84.4)	43 (15.6)	71 (95.9)	3 (4.1)	12 (92.3)	1 (7.7)
ii. After	192 (53.0)	170 (47.0)	115 (41.8)	160 (58.2)	66 (89.2)	8 (10.8)	11 (84.6)	2 (15.4)

Table 7a: Difference of Mental Health practices before and after KOSPEN Plus

Components	Before n (%)	After n (%)	Difference	
			n	%
Conduct regular mental risk assessments on employees (DASS-21)	54 (14.9)	47 (13.0)	-7	-1.9%
Carried out activities to address mental health problems in the workplace	47 (13.0)	170 (47.0)	123	34.0

4.8 HEALTHY WORK ENVIRONMENT (OPTIONAL) (SCOPE 7)

4.8.1 Overall

This optional scope evaluating the healthy work environment consists of three items, namely "available health facilities", "conducting cleanliness campaigns" and "activities conducted to improve the workplace environment". The highest item (classified as always) implemented by the facilities/ agencies was the cleanliness campaign (59.4%, n = 215) followed by the availability of health facilities (56.1%, n = 203) and activities conducted to improve the workplace environment (55.2%, n = 200). In terms of increment between before and after the KOSPEN Plus programme implementation, the highest increase was observed in "available health facilities" (20.5%), followed by "carried out activities to improve the workplace environment" (19.6%) and "conducted a cleanliness campaign" (18.5%) **(Table 8)**.

4.8.2 Health facilities

The highest item implemented by the health facilities (classified as "always") was the cleanliness campaign conducted at the workplace (63.6%, n = 175) followed by workplace provided health facilities (62.5%, n = 172) and activities carried out to improve the workplace environment (60%, n = 165). In terms of increment before and after the implementation of the KOSPEN Plus programme, the highest increment was observed in activities carried out to improve the workplace environment (22.9%) followed by workplace provided health facilities (21.8%) and a cleanliness campaign conducted at the workplace (20.7%) **(Table 8)**.

4.8.3 Government agencies

Among the government agencies, the highest item implemented (classified as "always") was a cleanliness campaign conducted at workplace (47.3%, n = 35). In terms of increment before and after the implementation of the KOSPEN Plus programme, the highest increment was observed in workplace provided health facilities (17.6%) followed by a cleanliness campaign conducted at the workplace (17.6%), and activities carried out to improve the workplace environment (10.8%) **(Table 8)**.

4.8.4 Private agencies

The highest items implemented by the private agencies (classified as "always") were activities carried out to improve the workplace environment (46.2%, n = 6), followed by conducting cleanliness campaigns (38.5%, n = 5) and only two (15.4%) private agencies provided health facilities at the workplace. In terms of increment before and after the implementation of the KOSPEN Plus programme, the highest increment was observed in providing health facilities at the workplace (7.7%) and the other two items did not show any increment **(Table 8)**.

4.8.5 Before and after KOSPEN Plus

Before the implementation of KOSPEN Plus, 30 - 40% of the agencies were already providing health facilities for their workers, conducting cleanliness campaigns and carrying out activities to improve the workplace environment. After KOSPEN Plus, there was an increment of 18.5 - 20.4% of these activities **(Table 8a)**.

Table 8: Healthy Work Environment (Optional) (Scope 7)

Healthy Work Environment (optional)	Frequency (Percentage)							
	Overall		Health facilities		Government agencies		Private agencies	
	Never/ Sometimes	Always	Never/ Sometimes	Always	Never/ Sometimes	Always	Never/ Sometimes	Always
7a. Does your workplace provide health facilities?								
i. Before	233 (64.4)	129 (35.6)	163 (59.3)	112 (40.7)	58 (78.4)	16 (21.6)	12 (92.3)	1 (7.7)
ii. After	159 (43.9)	203 (56.1)	103 (37.5)	172 (62.5)	45 (60.8)	29 (39.2)	11 (84.6)	2 (15.4)
7b. Is your workplace conduct a cleanliness campaign in?								
i. Before	214 (59.1)	148 (40.9)	157 (57.1)	118 (42.9)	49 (66.2)	25 (33.8)	8 (61.5)	5 (38.5)
ii. After	147 (40.6)	215 (59.4)	100 (36.4)	175 (63.6)	39 (52.7)	35 (47.3)	8 (61.5)	5 (38.5)
7c. Are activities to improve the workplace environment was carried out?								
i. Before	233 (64.4)	129 (35.6)	173 (62.9)	102 (37.1)	53 (71.6)	21 (28.4)	7 (53.8)	6 (46.2)
ii. After	162 (44.8)	200 (55.2)	110 (40.0)	165 (60.0)	45 (60.8)	29 (39.2)	7 (53.8)	6 (46.2)

Table 8a: Difference of Healthy Work Environment practices before and after KOSPEN Plus

Components	Before n (%)	After n (%)	Difference	
			n	%
Workplace provided health facilities	129 (35.6)	203 (56.1)	74	20.4
Workplace conduct a cleanliness campaign	148 (40.9)	215 (59.4)	67	18.5
Carried out activities to improve the workplace environment	129 (35.6)	200 (55.2)	71	19.6

4.9 PREVENTION AND REDUCTION OF THE HARMFUL USE OF ALCOHOL (OPTIONAL) (SCOPE 8)

4.9.1 Overall

This optional scope consisted of two items focusing on "screening for alcohol harm" and "alcohol-free activities". Prior to the implementation of the KOSPEN Plus programme, "screening for alcohol harm" was not commonly done, with only 6.6% (n = 24) of the facilities/agencies conducted the screening among the employees. "Alcohol free activities" also showed a similar trend, with only 6.4% (n = 23) of facilities/agencies "always" conducting such activities before the KOSPEN Plus programme implementation. Positive increment was seen in both items; 19.9% (n = 72) for "screening for alcohol harm" and 15.2% (n = 55) the implementation of "alcohol free activities" **(Table 9).**

4.9.2 Health facilities

6.9% (n = 19) of the health facilities always conducted "screening for alcohol harm" and 6.5% (n = 18) "alcohol free activities" among their employees before the KOSPEN Plus programme implementation. Upon the implementation of the KOSPEN Plus programme, there was a positive increment seen in both items, with 23.6% (n = 65) and 17.5% (n = 48) "screening for alcohol harm" and "alcohol free activities" respectively **(Table 9).**

4.9.3 Government agencies

A similar trend was seen for the two items implemented at the government agencies. Before implementation of the KOSPEN Plus programme, the percentage of government agencies which "always screen for alcohol harm" was 6.8% (n = 5) and "alcohol-free activities" was 6.8% (n = 5). After the implementation of the KOSPEN Plus programme, the percentage increased to 9.5% (n = 7) for both "screening for alcohol harm" and "alcohol free activities" **(Table 9).**

4.9.4 Private agencies

There was no uptake of this scope among the private agencies before or after the implementation of the KOSPEN Plus programme. The finding showed all participating private agencies (100%, n = 13) have never or sometimes conducted alcohol harm screening and activities to promote alcohol free awareness activities on their premise **(Table 9).**

4.9.5 Before and after KOSPEN Plus

The number of agencies that conducted regular risk screening on alcohol harm tripled from 24 to 72 after the implementation of the KOSPEN Plus. Agencies that carried out alcohol-free activities for employees more than doubled from 23 to 55 agencies after the implementation of KOSPEN Plus **(Table 9a)**.

Table 9: Prevention and Reduction of the Harmful Use of Alcohol (Optional): (Scope 8)

Prevention and Reduction of Alcohol Harm	Frequency (Percentage)							
	Overall		Health facilities		Government agencies		Private agencies	
	Never/ Sometimes	Always	Never/ Sometimes	Always	Never/ Sometimes	Always	Never/ Sometimes	Always
8a. Does your agency conduct regular risk Screening on alcohol harm? (Form AUDIT-C)								
i. Before	338 (93.4)	24 (6.6)	256 (93.1)	19 (6.9)	69 (93.2)	5 (6.8)	13 (100.0)	0 (0)
ii. After	290 (80.1)	72 (19.9)	210 (76.4)	65 (23.6)	67 (90.5)	7 (9.5)	13 (100.0)	0 (0)
8b. Are the alcohol-free activities carried out to employees?								
i. Before	339 (93.6)	23 (6.4)	257 (93.5)	18 (6.5)	69 (93.2)	5 (6.8)	13 (100.0)	0 (0)
ii. After	307 (84.8)	55 (15.2)	227 (82.5)	48 (17.5)	67 (90.5)	7 (9.5)	13 (100.0)	0 (0)

Table 9a Difference of Prevention and Reduction of the Harmful Use of Alcohol practices before and after KOSPEN Plus

Components	Before n (%)	After n (%)	Difference	
			n	%
Conduct regular risk screening on alcohol harm	24 (6.6)	72 (19.9)	48	13.3
Alcohol free activities carried out to employees	23 (6.4)	55 (15.2)	32	8.8

4.10 PERCEPTION OF KOSPEN PLUS

4.10.1 Overall

The perception of the KOSPEN Plus programme initiative was measured before and after its implementation at the facilities/agencies according to the scopes implemented. For the healthy eating scope, the percentage of 'good' perceptions increased from 12.7% (n = 46) to 55.2% (n = 200). For the Smoke-free scope, the percentage of good perceptions increased from 15% (n = 54) to 53% (n = 192). For the "Active Living scope", the percentage of 'good' perception increased from 15.7% (n = 57) to 58.0% (n = 210). In the "Weight Management" scope, the percentage increased from 14.9% (n = 154) to 54.4% (n = 197). Scope 5, for the Health Screening conducted at the facilities/agencies, the percentage increased from 21% (n = 76) to 62.7% (n = 227). Scope 6 on the Healthy Mind, the percentage increased from 16.6% (n=60) to 60.5% (n = 219). In scope 7, for the Healthy Work Environment (which is the optional scope), the percentage has increased from 16.0% (n = 58) to 53.0% (n = 192). Another optional scope which is scope 8 for the Prevention and Reduction of Alcohol Harm, the percentage was increased from 11.9% (n = 43) to 35.6% (n = 129) **(Table 10).**

4.10.2 Health Facilities

The perception of the KOSPEN Plus programme implementation showed overall improvement after the programme was commenced. After the KOSPEN Plus programme was introduced, the activities of Scope 5: Health Screening was perceived to be "Good" by 65.8% (n = 181) respondents followed by scope 6: Healthy Mind (63.6%) and Scope 3: Active Lifestyle (61.5%). However, the scope 8: Prevention & Reduction of Alcohol Harm showed the least improvement for "Good" category (35.6%) after implementation of KOSPEN Plus compared to the other scopes **(Table 10).**

4.10.3 Government Agencies

After the KOSPEN Plus programme was implemented in government agencies, the scopes with the "Good" perception were Scope 5: Health Screening (51.4%) followed by scope 1: Healthy Eating (47.3%) and Scope 4: Weight Management (47.3%). However, the scope 8 - Prevention & Reduction of Alcohol Harm showed small improvement for the "Good" category from 20.3% to 36.5% after the implementation of KOSPEN Plus compared to the other scopes **(Table 10).**

4.10.4 Private Agencies

Participating agencies from the private sectors perceived the implementation of Scope 5 (Health Screening) and Scope 6 (Healthy Mind) as "Good" with 61.5% for both scopes. This was followed by the other three scopes namely Healthy Eating Practices (53.8%), Active Lifestyle (53.8%) and Healthy Work Environment (53.8%). However, the scope 8: Prevention & Reduction of Alcohol Harm showed small improvement for "Good" category from 7.7% to 30.8% after implementation of KOSPEN Plus compared to the other scopes **(Table 10).**

Table 10: Perception of KOSPEN Plus, by groups

Health Programme	Frequency (Percentage)											
	Overall (n = 362)			Health facilities (n = 275)			Government agencies (n = 74)			Private agencies (n = 13)		
	Poor	Moderate	Good	Poor	Moderate	Good	Poor	Moderate	Good	Poor	Moderate	Good
1. Healthy Eating Practices												
i. Before	122 (33.7)	194 (53.6)	46 (12.7)	90 (32.7)	149 (54.2)	36 (13.1)	28 (37.8)	37 (50.0)	9 (12.2)	4 (30.8)	8 (61.5)	1 (7.7)
ii. After	31(8.6)	131 (36.2)	200 (55.2)	20 (7.3)	97 (35.3)	158 (57.5)	8 (10.8)	31 (41.9)	35 (47.3)	3 (23.1)	3 (23.1)	7 (53.8)
2. Non-Smoking Practice												
i. Before	133 (36.7)	175 (48.3)	54 (14.9)	97 (35.3)	136 (49.5)	42 (15.3)	32 (43.2)	31 (41.9)	11 (14.9)	4 (30.8)	8 (61.5)	1 (7.7)
ii. After	40 (11.0)	130 (35.9)	192 (53.0)	24 (8.7)	97 (35.3)	154 (56.0)	13 (17.6)	29 (39.2)	32 (43.2)	3 (23.1)	4 (30.8)	6 (46.2)
3. Active lifestyle												
i. Before	117 (32.3)	188 (51.9)	57 (15.7)	91 (33.1)	140 (50.9)	44 (16.0)	24 (32.4)	38 (51.4)	12 (16.2)	2 (15.4)	10 (76.9)	1 (7.7)
ii. After	28 (7.7)	124 (34.3)	210 (58.0)	17 (6.2)	89 (32.4)	169 (61.5)	10 (13.5)	30 (40.5)	34 (45.9)	1 (7.7)	5 (38.5)	7 (53.8)
4. Weight management												
i. Before	132 (36.5)	176 (48.6)	54 (14.9)	101 (36.7)	133 (48.4)	41 (14.9)	28 (37.8)	34 (45.9)	12 (16.2)	3 (23.1)	9 (69.2)	1 (7.7)
ii. After	34 (9.4)	131 (36.2)	197 (54.4)	20 (7.3)	98 (35.6)	157 (57.1)	11 (14.9)	28 (37.8)	35 (47.3)	3 (23.1)	5 (38.5)	5 (38.5)
5. Health Screening												
i. Before	105 (29.0)	181 (50.0)	76 (21.0)	69 (25.1)	143 (52.0)	63 (22.9)	32 (43.2)	30 (40.5)	12 (16.2)	4 (30.8)	8 (61.5)	1 (7.7)
ii. After	23 (6.4)	112 (30.9)	227 (62.7)	13 (4.7)	81 (29.5)	181 (65.8)	9 (12.2)	27 (36.5)	38 (51.4)	1 (7.7)	4 (30.8)	8 (61.5)
6. Healthy mind												
i. Before	124 (34.3)	178 (49.2)	60 (16.6)	91 (33.1)	138 (50.2)	46 (16.7)	29 (39.2)	32 (43.2)	13 (17.6)	4 (30.8)	8 (61.5)	1 (7.7)
ii. After	30 (8.3)	113 (31.2)	219 (60.5)	19 (6.9)	81 (29.5)	175 (63.6)	9 (12.2)	29 (39.2)	36 (48.6)	2 (15.4)	3 (23.1)	8 (61.5)
7. Healthy work environment												
i. Before	108 (29.8)	196 (54.1)	58 (16.0)	82 (29.8)	149 (54.2)	44 (16.0)	22 (29.7)	40 (54.1)	12 (16.2)	4 (30.8)	7 (53.8)	2 (15.4)
ii. After	29 (8.0)	141 (39.0)	192 (53.0)	19 (6.9)	103 (37.5)	153 (55.6)	9 (12.2)	33 (44.6)	32 (43.2)	1 (7.7)	5 (38.5)	7 (53.8)
8. Prevention & reduction of alcohol harm												
i. Before	138 (38.1)	181 (50.0)	43 (11.9)	109 (39.6)	139 (50.5)	27 (9.8)	26 (35.1)	33 (44.6)	15 (20.3)	3 (23.1)	9 (69.2)	1 (7.7)
ii. After	61 (16.9)	172 (47.5)	129 (35.6)	44 (16.0)	133 (48.4)	98 (35.6)	15 (20.3)	32 (43.2)	27 (36.5)	2 (15.4)	7 (53.8)	4 (30.8)

5. DISCUSSION, CONCLUSION AND RECOMMENDATIONS

Overall, agencies participating in the KOSPEN Plus programme have successfully implemented the programme, that was evidenced by eight out of ten of the KOSPEN Plus agencies has implemented at least six (6) out of the eight (8) scopes in their setting. The success of the implementation is even higher in the health facilities and government agencies with a proportion of nine (9) out of 10 of the agencies has implemented at least six (6) out of the eight (8) scopes. This shows the good acceptance of the agencies towards the KOSPEN Plus programme and also demonstrated the feasibility or practicality of the implementation. This successful implementation reflects the awareness and commitment of the top management and programme implementers towards a healthy workplace. The private agencies are also not far behind in terms of success in the implementation. On average, seven in ten private agencies are currently implementing at least six (6) out of the eight (8) scopes in their setting. This achievement symbolized a homogeneity in terms of awareness and commitment of government and private agencies in combating NCD and improve the well-being of their workers. Work to advocate public-private partnership to implement the programme may be one of the factors that lead to success.

In the early phase of implementation, various engagement from the Ministry of Health with the private sectors were held to ensure substantial advocation coverage to the agencies and these efforts have yielded positive effects. With regards to the scopes, this study finds health screening as the most implemented scope through all health facilities, government and private agencies. This was not surprising as this scope was a compulsory scope to conduct the KOSPEN Plus programme. The health screening scope was expected to be implemented in every agency which aligned with the current legislation such as the Occupational Safety and Health Act (OSHA) 1994 in securing the health and welfare of persons at work against risks to health arising out of the activities of persons at work. As Malaysia strives towards reducing the burden of NCD, government and private sectors should cooperate and collaborate with each other in the effort to strengthened the current initiatives.
More than half of the agencies in this study 203 (56.1%) have already conducted regular BMI measurement to employees and almost half 155 (42.8%) were already conducting weight loss programmes before KOSPEN Plus. A study from the Ministry of Health Malaysia in National Health Morbidity Survey 2019 showed that 50.1% of Malaysian are either obese or overweight [33] that shows the need of these programmes. Agencies who implement KOSPEN Plus will have access to the expertise and advice of a nutritionist as well as a guide to lose weight safely through the KOSPEN Plus programme. Health screening is the most implemented scope (95.6%) by the agencies as it has been made compulsory if agencies want to implement KOSPEN Plus. Of these, agencies, 68.5% provided a self-check screening for BMI and blood pressure. Self-checking stations can support workers to practice a healthy lifestyle by performing self-health monitoring where they should be able to access the equipment at any time during the working period. In a systematic review and meta-analysis study showed that self-monitoring interventions have the potential to reduce sedentary behaviour in adults [34]. Therefore, self-health monitoring can encourage healthy activities.

In terms of the level of perception towards KOSPEN Plus programme, the vast majority of scopes implemented by agencies has received a substantial increment of perception after the implementation of each scope. These findings were hypothesized as the positive acceptance and positive effects experienced by each agency that has implemented the KOSPEN Plus programme. It is important to note that many components of the KOSPEN Plus's scopes were already implemented by the agencies even before they started the KOSPEN Plus programme. This demonstrate that workplaces have put in place efforts to provide a healthy supportive environment for their workers to keep them healthy. This may be due to the existing OSHA 1994 and various health campaigns as well as promotions in the country. For example, 47 (13.0%) of the agencies have had their cafeteria certification for Healthy Cafeteria even before the implementation of KOSPEN Plus. Additionally, 243 (67.1%) of the agencies were already conducting health screening with 60-70% of them have

already owned health screening tools even before they implemented KOSPEN Plus. From this study, we learned that 205 (56.6%) of the agencies has referred their smokers to smoking cessation services and 155 (42.8%) of them has conducted weight loss intervention programmes among the workers even before they started KOSPEN Plus programme.

Although there was an increase in the number of activities to address mental health problem in the workplace, oddly, the percentage of agencies that conducted regular DASS-21 assessment were slightly reduced after the implementation of KOSPEN Plus. Thus, further assessment is required to identify the reason for this decline. Assessment using anonymous identification could possibly prevent stigmatization to the employee and at the same time, it could increase the use of DASS-21 as a screening tool in assessing employee's mental health status in the context of stress, depression and anxiety. The percentage of an organization that provides healthy work environment is still moderate. Thus, every organization should continue to raise the awareness to practice healthy work environment in workplace as to promote wellness of employees in terms of health, safety and wellbeing in order to increase work productivity.

Although 198 (54.7%) of the agencies claimed that they implemented the CEKAL scope, only 72 (19.9%) conducted the alcohol harm risk screening and only 55 (15.2%) of the agencies carried out alcohol free activities at the workplace after the implementation of KOSPEN Plus. Therefore, the understanding of the CEKAL scope must be reviewed. However, there was a marked increase of the implementation of the CEKAL components after the implementation of KOSPEN Plus where the number of agencies that conducted regular risk screening on alcohol harm become tripled while agencies that carried out alcohol free activities for employees doubled after the implementation of KOSPEN Plus programme.

In conclusion, the KOSPEN Plus programme was very well accepted by most of the agencies and health screening scope showed the highest compliance among other scopes. The positive perception among the implementers further supports the programme is well accepted among various agencies. and this also suggest that the quality improvement of the existing components, although there has been no direct study in relation to these components. Therefore, the KOSPEN Plus programme should be further promoted to be implemented to a wider scale.

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Appendix A

BORANG SOAL SELIDK

EVALUATION OF "KOMUNITI SIHAT PEMBINA NEGARA – Plus" (KOSPEN Plus) PROGRAMME AMONG WORKERS IN MALAYSIA (PHASE 1)

(UNTUK DIISI OLEH PENYELIDIK SEBELUM DIEMAIL KEPADA RESPONDEN)								
Negeri		**Fasiliti**		**ID RESPONDEN**				
Jawatan Responden dalam Jawatankuasa KOSPEN Plus / JKKP	:							

1. MAKLUMAT ORGANISASI

Maklumat Faciliti / Agensi	
Nama	:
Jumlah Pekerja	
< 5 5 - 9 10 – 49 50 – 99 100 – 199 ≥ 200	: : : : : :
Tarikh perlaksanaan program KOSPEN Plus di Faciliti/Agensi/ Syarikat tuan: [Untuk fasiliti kesihatan: rujuk surat pekeliling] [Untuk agensi kerajaan dan swasta: rujuk tarikh tandatangan Memorandum Persefahaman (MOU)]	:
Tarikh penubuhan Jawatankuasa Pelaksana Program KOSPEN Plus/ JKKP di faciliti/agensi tuan	:

2. SKOP – SKOP KOSPEN PLUS

Berikut adalah lapan (8) skop program KOSPEN Plus, Tandakan (✓) di petak yang berkenaan jika agensi anda masih mempraktik skop-skop berkenaan.

SKOP	**PROGRAM KOSPEN PLUS**	**Pada masa ini, agensi saya masih mempraktik SKOP ini**(✓)	
		Ya	**Tidak**
1	Amalan Pemakanan Sihat		
2	Amalan Tidak Merokok		
3	Hidup yang sihat		
4	Pengurusan berat badan		
5	Saringan Kesihatan		
6	Minda sihat		
7	Persekitaran tempat kerja sihat		
8	Pencegahan & pengurangan kemudaratan alkohol		
Catatan:			

Soalan seterusnya adalah berkaitan dengan jawapan anda yang bertanda (✓), Sila jawab SKOP yang telah anda tanda (✓). Penyelidik berminat untuk mendapatkan maklumat lebih lanjut berkaitan program/aktiviti KOSPEN PLUS setiap skop yang masih dilaksanakan oleh agensi anda pada masa ini DAN sejarah program/aktiviti yang telah agensi anda jalankan sebelum penerimaan KOSPEN Plus.

2.1. SKOP 1: AMALAN PEMAKANAN SIHAT (JIKA BERKAITAN)

Berikut adalah kenyataan mengenai Program KOSPEN Plus **skop 1: Amalan Pemakanan**. Tandakan (✓) di petak yang berkenaan.

3.1	**Hidangan Sihat Semasa Mesyuarat (PHSSM)**	**SEBELUM KOSPEN PLUS dilaksanakan di agensi tuan**			**SELEPAS KOSPEN PLUS dilaksanakan di agensi tuan**		
		Tidak Pernah	**Kadang-kadang**	**Kerap**	**Tidak Pernah**	**Kadang-kadang**	**Kerap**
	a. Adakah label kalori hidangan disediakan semasa mesyuarat?						
	b. Adakah air kosong disediakan semasa mesyuarat?						
	c. Adakah gula dan susu diasingkan daripada minuman panas semasa mesyuarat?						
	d. Adakah buah disediakan semasa mesyuarat?						
	e. Adakah sayur disediakan semasa mesyuarat (waktu makan utama)?						

3.2	**Kafeteria Sihat**	**SEBELUM KOSPEN PLUS dilaksanakan di agensi tuan**		**SELEPAS KOSPEN PLUS dilaksanakan di agensi tuan**	
		Ya	**Tidak**	**Ya**	**Tidak**
	a. Agensi tuan mempunyai kafetaria?				
	b. Jika Ya, Adakah kafetaria di agensi tuan diiktiraf sebagai kafetaria sihat oleh KKM (Diberi sijil)				

2.2. SKOP 2: AMALAN TIDAK MEROKOK (JIKA BERKAITAN)

Berikut adalah kenyataan mengenai Program KOSPEN Plus **SKOP 2: AmalanTidak Merokok.** Tandakan (✓) di petak yang berkenaan.

1	**Amalan Tidak Merokok**	**SEBELUM KOSPEN PLUS dilaksanakan di agensi tuan**		**SELEPAS KOSPEN PLUS dilaksanakan di agensi tuan**	
		Ya	**Tidak**	**Ya**	**Tidak**
	a. Adakah agensi anda merujuk pekerja yang merokok ke perkhidmatan berhenti merokok?				
	b. Adakah agensi anda mendapat pengiktirafan “Blue Ribbon”?				
	c. Adakah pihak pengurusan di agensi anda mengistiharkan kawasan tempat kerja adalah tempat larangan merokok?				
	d. Adakah tempat merokok disediakan kepada pekerja yang merokok?				

2.3. SKOP 3: HIDUP YANG AKTIF (JIKA BERKAITAN)

Berikut adalah kenyataan mengenai Program KOSPEN Plus **SKOP 3: Hidup Yang Aktif.**
Tandakan (✓) di petak yang berkenaan.

1	**Hidup Yang Aktif**	**SEBELUM KOSPEN PLUS dilaksanakan di agensi tuan**			**SELEPAS KOSPEN PLUS dilaksanakan di agensi tuan**		
		Tidak Pernah	**Kadang-kadang**	**Kerap**	**Tidak Pernah**	**Kadang-kadang**	**Kerap**
	a. Adakah agensi anda melaksanakan aktiviti kecerdasan kepada pekerja?						
	b. Adakah sesi aktiviti kecerdasan berjadual dijalankan di agensi anda?						
	c. Adakah agensi tuan membuat promosi “Jom Guna Tangga”?						

2	**Hidup Yang Aktif**	**SEBELUM KOSPEN PLUS dilaksanakan di agensi tuan**		**SELEPAS KOSPEN PLUS dilaksanakan di agensi tuan**	
		Ya	**Tidak**	**Ya**	**Tidak**
	a. Adakah agensi anda menyediakan kemudahan Gym atau sudut kecerdasan kepada pekerja?				
	b. Adakah agensi anda menyediakan trek berjalan kaki?				

2.4. SKOP 4: PENGURUSAN BERAT BADAN *TRIM & FIT* (JIKA BERKAITAN)

Berikut adalah kenyataan mengenai Program KOSPEN Plus **SKOP 4: pengurusan berat badan (trim & Fit).** Tandakan (✓) di petak yang berkenaan.

1	**Pengurusan Berat Badan (*TRIM & FIT)***	**SEBELUM KOSPEN PLUS dilaksanakan di agensi tuan**		**SELEPAS KOSPEN PLUS dilaksanakan di agensi tuan**	
		Ya	**Tidak**	**Ya**	**Tidak**
	a. Adakah agensi anda membuat pengukuran BMI secara berkala kepada semua pekerja?				
	b. Adakah agensi anda mempunyai Program Intervensi Pengurusan Berat Badan yang dijalankan kepada pekerja yang mempunyai BMI ≥ 25 kg/m²?				

2.5. SKOP 5: SARINGAN KESIHATAN (JIKA BERKAITAN)

Berikut adalah kenyataan mengenai Program KOSPEN Plus **SKOP 5: Saringan Kesihatan.** Tandakan (✓) di petak yang berkenaan.

1	**Saringan Kesihatan**	**SEBELUM KOSPEN PLUS dilaksanakan di agensi tuan**		**SELEPAS KOSPEN PLUS dilaksanakan di agensi tuan**	
		Ya	**Tidak**	**Ya**	**Tidak**
	a. Adakah agensi anda membuat Saringan Kesihatan secara berkala kepada semua pekerja?				
	b. Adakah saringan dibawah ini dijalankan kepada pekerja?				
	i. BMI				
	ii. Ukur Lilit Pinggang				
	iii. Paras Glukosa Darah				
	iv. Tekanan Darah				
	v. AUDIT-C				
	c. Adakah "Sudut Kendiri Saringan BMI dan Tekanan darah disediakan di agensi anda?				
	d. Adakah agensi anda mempunyai alatan saringan kesihatan seperti berikut :				
	i. *Glucostrip* dan *Glucometer*				
	ii. *Digital BP measurement set*				
	iii. *Stadio-meter* dan *weighing machine*				
	iv. Pita ukur lilit pinggang				
	v. DASS -21				
	vi. Audit C				

2.6. SKOP 6: MINDA SIHAT (JIKA BERKAITAN)

Berikut adalah kenyataan mengenai Program KOSPEN Plus **SKOP 6: Minda Sihat.** Tandakan (✓) di petak yang berkenaan.

1	Minda Sihat	SEBELUM KOSPEN PLUS dilaksanakan di agensi tuan			SELEPAS KOSPEN PLUS dilaksanakan di agensi tuan		
		Tidak Pernah	Kadang-kadang	Kerap	Tidak Pernah	Kadang-kadang	Kerap
	a. Adakah agensi anda menjalankan pernilaian risiko mental secara berkala terhadap pekerja? (Borang DASS 21)						
	b. Adakah aktiviti menangani masalah kesihatan mental di tempat kerja dijalankan? (contohnya ; terapi psikososial, kaedah relaksasi)						

2.7. SKOP 7: PERSEKITARAN TEMPAT KERJA SIHAT (JIKA BERKAITAN)

Berikut adalah kenyataan mengenai Program KOSPEN Plus **SKOP 7: Persekitaran tempat kerja sihat.** Tandakan (✓) di petak yang berkenaan.

1	Persekitaran tempat kerja sihat	SEBELUM KOSPEN PLUS dilaksanakan di agensi tuan			SELEPAS KOSPEN PLUS dilaksanakan di agensi tuan		
		Tidak Pernah	Kadang-kadang	Kerap	Tidak Pernah	Kadang-kadang	Kerap
	a. Adakah persekitaran tempat kerja anda membangunkan fasiliti kesihatan?						
	b. Adakah di tempat kerja anda terdapat kempen kebersihan?						
	c. Adakah aktiviti penambahbaikan persekitaran tempat kerja dilakukan?						

2.8. SKOP 8: PENCEGAHAN DAN PENGURANGAN KEMUDARATAN ALKOHOL (JIKA BERKAITAN)
Berikut adalah kenyataan mengenai Program KOSPEN Plus **SKOP 7: Pencegahan dan pengurangan kemudaratan alkohol.** Tandakan (✓) di petak yang berkenaan.

1	**Pencegahan Dan Pengurangan Kemudaratan Alkohol**	**SEBELUM KOSPEN PLUS dilaksanakan di agensi tuan**			**SELEPAS KOSPEN PLUS dilaksanakan di agensi tuan**		
		Tidak Pernah	**Kadang-kadang**	**Kerap**	**Tidak Pernah**	**Kadang-kadang**	**Kerap**
	a. Adakah agensi anda membuat Saringan Risiko terhadap kemudaratan alkohol secara berkala? (Borang AUDIT-C)						
	b. Jika Ya, Adakah aktiviti pengekalan sihat tanpa alcohol dijalankan kepada pekerja ?						

3. Pada keseluruhannya, apakah pandangan ANDA terhadap program kesihatan yang dijalankan di agensi anda **SEBELUM** pengenalan KOSPEN Plus dan **SELEPAS** pengenalan KOSPEN Plus (Dari Segi peningkatan atau penurunan tahap permarkahan) berdasarkan skop-skop yang telah diperkenalkan oleh KOSPEN Plus. [Berikan skor 1 hingga 5 di petak yang berkenaan]

	SKOR PERMARKAHAN					
Sangat Tidak Memuaskan	1	2	3	4	5	**Sangat Memuaskan**

SKOP	**Program KESIHATAN**	**KOSPEN PLUS** (Dari segi peningkatan atau penurunan tahap permarkahan)	
		SEBELUM KOSPEN PLUS diperkenalkan di agensi anda	**SELEPAS KOSPEN PLUS diperkenalkan di agensi anda**
1	Amalan Pemakanan Sihat		
2	Amalan Tidak Merokok		
3	Hidup yang aktif		
4	Pengurusan berat badan		
5	Saringan Kesihatan		
6	Minda sihat		
7	Persekitaran tempat kerja sihat		
8	Pencegahan & pengurangan kemudaratan alkohol		

Nota:
Jika aktiviti ini tidak pernah dijalankan di agensi anda, masukkan tanda | -8. |
Untuk rujukan sebagai **Tidak Berkenaan.**

Sekian.
Terima kasih atas kerjasama Tuan-tuan dan Puan-puan.

Appendix B

Komuniti Sihat Pembina Negara (KOSPEN Plus) Program

INFORMATION AND CONSENT FORM
RESPONDENT INFORMATION SHEET

1. **Research Title:** Evaluation of "Komuniti Sihat Pembina Negara - Plus" (KOSPEN Plus) programme among workers in Malaysia (Phase 1)

2. **Name of Principal Investigator and Institution:** Mr. Lim Kuang Kuay, Institute for Public Health, Ministry of Health, Kuala Lumpur.

3. **Sponsor**: Institute for Public Health, Ministry of Health, Malaysia

4. **Introduction:** Ministry of Health is conducting a survey to evaluate the effectiveness of the implementation of a health programme, "Komuniti Sihat Pembina Negara di tempat kerja (KOSPEN Plus)" (Phase I) to obtain basic information **pertaining to the organization and the scope of the KOSPEN Plus programme implemented in your department.** This information will be used to determine the effectiveness of the KOSPEN Plus programme that has been implemented since 2016. Briefly, the KOSPEN Plus programme is a risk factor intervention programme to develop a healthy lifestyle among employers and employees. It is hoped that this programme will be the best platform for the delivery of health services among employees. The programme covers both public and private employees. The implementation of the KOSPEN Plus Programme in the workplace may improve the workers' health due to the increasing trend of time spend at work place. This survey is fully sponsored by the Institute for Public Health, Ministry of Health Malaysia and has been approved by the Ethics and Medical Research Committee (MREC), Ministry of Health Malaysia.

5. **What is the purpose of this survey?** This survey aims to evaluate the effectiveness of the implementation of a health programme, "KOSPEN Plus" which had been implemented by the Ministry of Health since 2016. The data collection of this survey will take approximately 3 months which involves 1,390 respondents from the health facilities, government agencies and private agencies in Malaysia.

6. **What should I do/ what are my roles/ if I have consented to participate ?** Your role will be to respond to all online survey questions using a computer at your department or home. The survey questions will be sent to your preferred email address. You do not need to create a new email account in order to participate in this survey. Participation in this survey is free and the survey takes about 20 minutes to answer. First, you need to read/understand the survey and provide informed consent by pressing all the "AGREE" and "SEND" buttons located in the "RESPONSE AGREEMENT" section below to enable you to answer the survey question. Your participation in this survey is voluntary and you may not answer any questions if you do not wish to. If you decide to withdraw from the survey midway, you could exit the site freely and no measures will be used to preserve the data you have filled in, thus all data will be destroyed. Your refusal to participate or opt out will not affect any medical or health benefits. The duration of this survey is from January 1, 2020 to March 31, 2019. After the survey duration ended, the links to access to this question will be disabled and no one will be able to access other than the researchers.

7. **What are the risk/ side effects of participating in this survey?** There is no risk/side effect of participating in this survey as no invasive or harmful methods are used.

8. **What are the benefits of participating in this survey?** You will not obtain any monetary benefits for your participation in this survey. However, your responses to the survey questions will be used to help policy makers to improve the implementation of the KOSPEN Plus programme among workers in Malaysia.

9. **Will the confidentiality of my personal details be assured?** All your personal details and also information obtained from this survey will be kept confidential as per the appropriate rules and/or laws. In the event that the results or outcomes of this survey are published or presented to the public, your identity will not be disclosed to others without your permission.

10. **Who should I contact if I have any queries?**
Should you have further inquiries pertaining to this survey, you may contact our Principal Investigator, Mr Lim Kuang Kuay at the Institute for Public Health, Blok B5 & 6, Kompleks NIH, Bandar Setia Alam, 40170, Shah Alam, Selangor, at 03-3362 8706. Should you have any quiries regarding your right as a repsondent in this survey, you may contact the Secretariat, Medical Research Ethics Committee (MREC), Ministry of Health, Malaysia, at 03-3362 8888/8205.

RESPONDENT CONSENT FORM

Research Title: Evaluation of "Komuniti Sihat Pembina Negara - Plus" (KOSPEN Plus) programme among workers in Malaysia (Phase 1

I agree that.....	Choose one only	
	AGREE	**NOT AGREE**
1. I had been briefed on the details of this survey verbally and on paper and I have read and understood all details on the Information Sheet.	○	○
2. I had enough time to consider my participation in this survey and had been given the opportunity to ask questions and all my questions had been answered satisfactorily.	○	○
3. I understood that my participation is of voluntary basis and I can withdraw from this survey at any time without giving any reason.	○	○
4. I understood the risks and benefits of participating in this survey and I voluntarily consented to participate in this survey.	○	○
5. I understood that the researchers and relevant parties have the access to my information during the implementation of this survey and such data will be kept safe and confidential from unauthorized disclosure.	○	○

Please Press SUBMIT button to start the survey	○

Note:
By selecting all the "AGREE" and "SUBMIT" button, you will be taken to the questionnaire section.
If one or more "NOT AGREE" buttons are selected, you are considered REFUSE to participate in this survey.

Appendix C

Program Komuniti Sihat Pembina Negara (KOSPEN Plus)

BORANG MAKLUMAT DAN PERSETUJUAN
RISALAH MAKLUMAT RESPONDEN

1. **Tajuk :** Evaluasi Keberkesanan Program Komuniti Sihat Pembina Negara (KOSPEN Plus) di kalangan pekerja di Malaysia (Fasa 1)

2. **Nama Penyelidik dan Institusi:** En. Lim Kuang Kuay, Institut Kesihatan Umum, Kementerian Kesihatan Malaysia

3. **Penaja:** Institut Kesihatan Umum, Kementerian Kesihatan Malaysia

4. **Pengenalan:** Kementerian Kesihatan Malaysia sedang menjalankan kajian evaluasi keberkesanan Program Komuniti Sihat Pembina Negara di tempat kerja (KOSPEN Plus) bagi memperolehi maklumat asas **berkaitan dengan organisasi dan SKOP KOSPEN Plus yang dilaksanakan di jabatan Tuan/ Puan**. Maklumat yang diperolehi ini akan digunakan bagi mengetahui keberkesanan program KOSPEN Plus yang telah dilaksanakan semenjak 2016. Secara ringkasnya, program KOSPEN Plus merupakan program intervensi faktor risiko untuk membentuk amalan budaya hidup secara sihat dalam kalangan majikan dan pekerja. Dengan adanya program ini, adalah diharap ianya akan menjadi platform yang terbaik bagi mendekatkan penyampaian perkhidmatan kesihatan dari pekerja kepada pekerja. Program ini merangkumi pekerja awam dan swasta. Pelaksanaan Program KOSPEN Plus di tempat kerja adalah berasaskan kepada peningkatan secara global masa pekerja di tempat kerja, menyebabkan kepentingan melindungi dan mempromosi kesihatan di tempat kerja menjadi keutamaan. Tinjauan ini ditaja sepenuhnya oleh Kementerian Kesihatan Malaysia dan telah mendapat kelulusan Jawatankuasa Etika dan Penyelidikan Perubatan (MREC), Kementerian Kesihatan Malaysia.

5. **Apakah tujuan tinjauan ini dilakukan ?:** Tujuan tinjauan ini dijalankan adalah untuk memperoleh maklumat berkenaan keberkesanan program KOSPEN Plus yang telah dilaksanakan oleh pihak Kementerian Kesihatan Malaysia semenjak 2016. Tinjauan ini akan berlangsung kira-kira 3 bulan dan seramai 1390 responden yang terdiri daripada pekerja-pekerja yang bertugas di fasiliti kesihatan, agensi kerajaan dan agensi swasta dari seluruh Malaysia akan terlibat dalam tinjauan ini.

6. **Apakah yang perlu saya lalui/lakukan sekiranya bersetuju untuk menyertai tinjauan ini ?** Memberi respon terhadap soalan kaji-selidik yang perlu dijawab oleh anda dalam talian internet dengan menggunakan komputer di jabatan atau rumah anda. Soalan kaji-selidik akan dihantar ke email yang dibekalkan oleh anda kepada kami. Anda tidak perlu membuka akaun email yang baru untuk sekiranya bersetuju untuk menyertai tinjauan ini. Menyertai tinjauan ini tidak memerlukan anda mengeluarkan sebarang perbelanjaan. Keseluruhan tinjauan ini hanya mengambil masa kira-kira 20 minit sahaja. Anda perlu memahami maklumat tinjauan ini dan memberi keizinan dengan menekan semua butang “SETUJU” dan “HANTAR” yang berada di ruangan “PERSETUJUAN RESPONDEN” di bawah untuk membolehkan anda menjawab soalan kajiselidik. Penyertaan anda dalam tinjauan ini adalah secara sukarela dan anda boleh tidak menjawab mana-mana soalan sekiranya tidak mahu. Sekiranya anda membuat keputusan untuk menarik balik dari tinjauan semasa sedang menjawab soalan, anda boleh keluar dari laman sesawang dengan bebas dan tidak ada langkah yang akan digunakan untuk mengekalkan data yang telah anda isi, oleh itu semua data akan dimusnahkan. Keengganan anda untuk mengambil bahagian atau menarik diri tidak akan menjejaskan sebarang manfaat perubatan atau kesihatan yang sememangnya hak anda. Tempoh kajian ini adalah daripada 1 Januari 2020 hingga 31 Mac 2019, selepas daripada Tarikh tersebut, pautan untuk mengakses soalan kajiselidik ini akan dipadamkan dan tiada sesiapapun boleh mengakses selain daripada penyelidik.

7. **Apakah risiko dan kesan-kesan sampingan menyertai tinjauan ini?**: Tiada risiko atau kesan sampingan akan timbul dari tinjauan ini memandangkan tiada kaedah yang invasif atau merbahaya digunakan.

8. **Apakah manfaatnya saya menyertai tinjauan ini?** Tinjauan ini tidak memberikan sebarang saguhati kepada responden yang menyertai tinjauan ini. Namun, segala maklumat yang diperoleh daripada tinjauan ini akan dapat digunakan untuk membantu penggubal dasar untuk merancang dan menambahbaik program sedia ada untuk kebaikan pekerja-pekerja di Malaysia.

9. **Adakah maklumat saya akan dirahsiakan ?:** Segala maklumat anda yang diperoleh dalam tinjauan ini akan disimpan dan dikendalikan secara sulit, bersesuaian dengan peraturan-peraturan dan/atau undang-undang yang berkenaan. Sekiranya hasil kajian ini diterbitkan atau disampaikan kepada orang ramai, identiti anda tidak akan didedahkan kepada orang lain tanpa keizinan anda.

10. **Siapakah yang perlu saya hubungi sekiranya saya mempunyai sebarang pertanyaan?**: Sekiranya anda mempunyai sebarang soalan mengenai tinjauan ini atau memerlukan keterangan lanjut, Tuan/ Puan boleh hubungi penyelidik, En. Lim Kuang Kuay di Institut Kesihatan Umum, Blok B5 & 6, Kompleks NIH, Bandar Setia Alam, 40170, Shah Alam, Selangor di talian 03-3362 8706 untuk penjelasan lebih lanjut. Jika anda mempunyai sebarang pertanyaan berkaitan dengan hak-hak anda sebagai responden dalam tinjauan ini, sila hubungi Setiausaha, Jawatankuasa Etika & Penyelidikan Perubatan (MREC), Kementerian Kesihatan Malaysia di talian 03-3362 8888/8205.

PERSETUJUAN RESPONDEN

Tajuk kajian : Evaluation of "Komuniti Sihat Pembina Negara - Plus" (KOSPEN Plus) programme among workers in Malaysia (Phase 1).

Saya bersetuju bahawa.....	Pilih Satu	
	SETUJU	**TIDAK SETUJU**
1. Saya telah diberi maklumat tentang tinjauan di atas dan saya telah membaca dan memahami segala maklumat yang diberikan di dalam risalah ini.	○	○
2. Saya mempunyai masa yang secukupnya untuk mempertimbangkan penyertaan saya dalam tinjauan ini dan telah diberi peluang untuk bertanyakan soalan.	○	○
3. Saya faham bahawa penyertaan saya adalah secara sukarela dan boleh menarik diri daripada tinjauan ini pada bila-bila masa tanpa memberi sebarang sebab.	○	○
4. Saya memahami risiko dan manfaat dari tinjauan ini dan saya memberi keizinan secara sukarela untuk mengambil bahagian dalam tinjauan.	○	○
5. Saya memahami bahawa penyelidik dan pihak berkaitan yang dapat akses kepada maklumat saya dalam kajian ini. Data berkenaan akan disimpan di tempat yang selamat dan tidak akan didedahkan kepada pihak yang tidak berkenaan.	○	○

Sila Tekan Butang **HANTAR** disebelah untuk mejawab soalan soal-selidik	○

MAKLUMAN:
Dengan memilih semua butang "SETUJU" dan "HANTAR", anda akan dibawa ke seksyen soalan kaji-selidik.
Jika satu atau lebih butang "TIDAK SETUJU" dipilih, anda dianggap ENGGAN menyertai kajian ini.

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